EFFECTIVENESS OF SELF INSTRUCTIONAL MODULE ON PREVENTION OF WORM INFESTATION AMONG MOTHERS OF UNDER FIVE CHILDREN IN INSTITUTE OF CHILD HEALTH AND RESEARCH CENTRE AT GOVERNMENT RAJAJI HOSPITAL MADURAI

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In partial fulfillment of the requirement for the degree of

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ABSTRACT

A study to assess the effectiveness of self instructional module on prevention of worm infestation among mothers of under five children in Institute of Child Health and Research Centre at Government Rajaji Hospital Madurai. Objectives -To assess the effectiveness of self instructional module on prevention of worm infestation among mothers of under five children. **Design**-Pre-experimental design was used to assess the effectiveness of self instructional module on prevention of worm infestation among mothers of under five children in Institute of Child Health and Research Centre at Government Rajaji Hospital Madurai. The tool used for this study consists of demographic data and structured knowledge questionnaires. The populations of this study were 60 mothers of under five children admitted in pediatric ward who undergone treatment and other diagnostic procedure. Samples for the study were selected through consecutive sampling. Conceptual frame work used for this study was Ludwig Von Bertalanffy's General system theory model. **Results** The findings of the present study revealed that the computed post-test 't' value in over all area was highly significant ($t = 30.22$, $P<0.001$). The mean and S.D value (mean=16.92, S.D=1.42) of post-test was higher than the pre-test value (mean= 7.52, S.D=1.76). This shows that there was a **highly significant** increase of knowledge on prevention of worm infestation among mothers of under five children and also self instructional module is very much effective. **Conclusion** Self instructional module was easy method of health education, cost effective, non-invasive, and highly feasible. It can be used as an effective intervention to improve the knowledge among mothers of under five children on prevention of worm infestation.

Introduction

CHAPTER – I

INTRODUCTION

"Prevention is better than cure"

- JURIST HENRY DE BRACTON

Children are the valuable asset for any society. Today's children are the builders of future nations. Their well being is the basic concern of every nation. A healthy child brings happiness to the entire family. Worm infestation, refers to the invasion of worm. Worms are parasites which infest to keep living with the host with minimal or even without any symptoms or complaints. Worm infestation is common in children all over the world. Worms may be of many sizes and shapes from microscopic Pin worm to Tape worm that are several feet long. These worms live in the intestine.

Worm infestation is one of the major causes of childhood malnutrition, anaemia, stunted physical and mental growth, psycho-social problems and this along with repeated gastrointestinal and upper respiratory tract infection contributes to high morbidity in children and remains a major cause of high infant and child mortality in our country Any human being get infection through fecal-oral route. If defecation is done in open fields, the eggs of worms from stools of infected humans and animals find the soil and grow there. Children playing in such contaminated soil can easily be infested by worms. The common types of worms include:

- Round worms (Ascariasis): They are round, thin, white/pink worm about 10-20 inches long.

- Pinworms (Thread worms): They are white, small and thin, just like fine threads.
- Hookworms: They are tiny dark-pink in color, not visible in stools.
- Tape worms (Taniea saginata/solium): They are flat and extremely long about 2-3 meters.

Children, who eat without washing their hands, transfer the harmful eggs, sticked to their nails, into their stomach where they become fully developed worms. These worms stick to the lining of the intestines and suck blood leading to anemia and other symptoms of worm infestation. They can grow to the extent of obstructing intestines causing acute pain and landing the patient in an emergency seeking condition.

tape worms are called cysticercoids reach the stomach by eating contaminated pork or beef. They are even more dangerous as they can mix into the blood and reach brain, heart, liver etc and prove fatal. Unwashed hands and using others' towels, handkerchief etc, spread worm infestation. Eating unwashed raw vegetables and drinking contaminated water are causes the worm infestation.

Worm infestation is a leading cause of child mortality in developing countries of tropics and subtropics. In India 22 stations are known to be endemic for worm infestation and 553 million people are at risk of infection with 27 million parasites carrier and 21 million with filariasis. India is a largest country with various forms of diversities.

The world health organization has estimated that approximately 1.4 billion people worldwide is infected with at least one of the following helminthes round worm, whip worm, or hook worm.

In India children are more susceptible for so many health problems. Worm infestation not only affects the nutritional status, physical growth and development but also affect the intellectual development which may lead to mental retardation. Children from six months onwards suffer from worm infestation based on the food practices and low socio- economic status. 40% to 50% of children may harbor the round worms sometimes or the other.

Worm infestation mainly comes from contaminated water and food or taking the direct faeco-oral route with improper cleaning of hands or contaminated fingers. Children under the age of five are having the habit of keeping their hand in mouth, thumb sucking, which may lead to many of the diseases especially abdominal diseases like diarrhea, vomiting, abdominal cramps etc.

The prevalence of worm infestation is reduced from 60.5 per 1000 in 1993 to 13 per thousand in 1998. This has been made possible by the improvement in the quality of water supply, safe disposal of excreta, adequate personal hygiene, environmental sanitation and effective health education programmes. Out of many of control and prevention of disease, teaching has gained a wide importance in promotion of health. So health education is considered to be the most important aspect in preventing and identifying the diseases as most of the mothers who are living in the rural areas may not have adequate knowledge regarding the identification and prevention of worm infestation.

"Health for all by 2000 AD" is the slogan which gives importance to health care by the people and for the people. This will remain dream unless the mothers have adequate knowledge regarding identification and prevention of worm infestation among children.

The investigator had seen most of the children below the age of five years are suffering from worm infestation. Most of the mothers are unaware of the ill effects, causes, signs and symptoms, prevention and management of worm infestation. The mothers should essentially have the knowledge of identification and prevention of worm infestation so that they can protect the children from the risk of worm infestation. Therefore the investigator plan to conduct a study regarding the identification and prevention of worm infestation among mothers of under five children as the problem is more prevalent among under five children.

1.1 NEED FOR STUDY

Healthy child makes healthy generation. There is a close relationship between unhealthy children to a worsened future of the world. The children are one third of our population and all of our future. There are about 200.6 million children belonging to 2 to 5 years globally. Among them, 40% of middle school children are in India.

Intestinal helminthics are a worldwide problem especially among children of developing countries. It is a common health problem in children. It is commonly in tropical and sub-tropical areas. It occurs through the fecal-oral route. Children who are affected with worm infestation may shows the sign and symptoms of weight loss, itching at anal area, abdominal pain, diarrhoea, anemia, sleeplessness, irritability and

fever. It can be prevented through proper health education regarding personal hygiene and environmental sanitation.

WHO health statistics in 2006 estimated that about 1400 million people worldwide are infected with atleast one type of worm. School children have worm infestation as a common health problem throughout the world, due to poor hygiene. The prevalence rate of worm infestation is 12% in India.

In India, intestinal parasites are the priority health problem because of unhygienic practice, poor awareness, illiteracy, misbelieve, poverty and a variety of functions. In south India Necator Americans and in North India Ankylostoma is more prevalent. More than 200 milllion children are infected in India. Sixty to eighty percent of the population of West Bengal, Andhra Pradesh, Uttar Pradesh and Orissa & Tamilnadu are infected with worms.

Worm infestations contribute significantly to Global burden of disease in children especially in the tropical & sub-tropical regions. The Intestinal nemetodes are the most common type of Helminthes. The three major intestinal nemetodes of children are ascaris lumbricoides, tricuris tricuria and hook worm together have a substantial impact on the health and well being of the children living in less developed nations of the world.

Intestinal nemetodes infestation with round worm, hookworm and whip worm are the sources of severe morbidity condition in children as well as in adults represented by about 500 to 1000 million people globally. The distribution of this diseases caused by these infestations extends throughout the communities of poor and socio-economically deprived people in the countries of tropics and subtropics. In the

host communities a minority of the individual are heavily infested where as majority harbor few or no worms.

The children especially under the age of 5 years are affected mostly with worm infestation. The incidence rate increases in a year. So the investigator was interested to do the study so as to reduce the infestation with some home remedial measures such as curry leaves.

An epidemiological study was conducted to identify the prevalence of intestinal parasites and associated factors among 50 underfive children in Kashmir, India. The study reported that 23(46.7%) had one (or) more parasites and prevalence of Ascariasis was highest 17(28.4%), and Taenia saginata was 10(3.7%). The study recommended that the prevalence rate can be reduced through proper impartment of knowledge regarding preventive measures by the health care personnel to the mothers or care takers of underfive children.

An analytical study was conducted to identify the sign and symptoms of worm infestation related to protein and calorie intake among 80 children in Tanzania. The study found that 11% of children with worm infestation were classified as showing stunting, inadequate calorie intake observed in 78% of the population and proportion of those with inadequate protein intake was 34%.

A co-relational study was conducted to identify the relationship between the prevalence of underweight and worm infestation among 50 children in between the age group of 2^{nd} and 5^{th} year of life in Poonamalle, Chennai. The study revealed that 50.3% children were found stunted with higher prevalence of worm infestation in 2^{nd} and 5^{th} year of life.

A hypothetical study was conducted to identify the relationship between calorie and protein intake with worm infestation in Maharashtra among 200 underfive children. The study identified that inadequate daily caloric intake was observed in 78% of the population and inadequate protein intake was 34% was especially the association between Ascariasis lumbricoides and Trichuris trichura.

A cross sectional study was conducted to explain the complications of worm infestation among 80 children with worm infestation in Beijing, Japan. The study shows that complication such an intestinal obstruction, seasonal pneumonitis, anemia, and some lesions in the skin, peritonitis, vaginitis, and pneumonia will arise due to various types of worm infestation among affected children.

A co-relational study was conducted to identify the relationship between helminthiasis and hygiene conditions of 20 school in Tkenne Nigeria. The study concluded that burden of parasitic infestation and poor sanitary conditions are greater public health importance, including deworming, health education and improvement of conditions are recommended.

During the clinical posting the investigator found that many of the children were affected with worm infestation and shows suffering with abdominal pain, vomiting, diarrhoea and malnutrition etc. There were the children were not able to maintain their normal routine life. The mother plays an important role in promoting the health of under five children.

So the researcher felt that better knowledge and habit of information regarding environmental sanitation and hygienic practices will help to improve the knowledge

and thereby reduce the incidence of worm infestation and also to improve the health and economic condition of the world.

1.2 STATEMENT OF THE PROBLEM

A Study to assess the effectiveness of self instructional module on prevention of worm infestation among mothers of under five children in Institute of Child Health and Research Centre at Government Rajaji Hospital Madurai

1.3 OBJECTIVES OF THE STUDY

1. To assess the level of knowledge on prevention of worm infestation among mothers of under five children.
2. To **e**valuate the effectiveness self instructional module on prevention of worm infestation among mothers of under five children .
3. To determine the association between level of knowledge on prevention of worm infestation with selected socio demographic variables.

1.4 HYPOTHESIS OF THE STUDY

H_1: There is a significant difference between the pre test and post test level of knowledge on prevention of worm infestation among mothers of under five children.

H_2: There is a significant association between level of knowledge with selected socio demographic variables .

1.5 OPERATIONAL DEFINITIONS

EFFECTIVENESS:

In this study effectiveness refers to the significant gain in knowledge on prevention of worm infestation after administration of self instructional modules as measured by structured knowledge questionnaires on the seventh day.

SELF INSTRUCTIONAL MODULE ON PREVENTION OF WORM INFESTATION:

In this study refers to issuing of self instructional module with explanation on Meaning, causes, types, mode of transmission, management, complications, and prevention of worm infestation among mothers of under five children.

MOTHERS OF UNDER FIVE CHILDREN

In this study mothers of under five children refers to women having children below the age of five and admitted in pediatric ward in Institute of Child Health and Research Centre at Government Rajaji hospital Madurai.

PAEDIATRIC WARD AT GOVERNMENT RAJAJI HOSPITAL MADURAI

It refers to the place where the children get admitted in medical and surgical ward for diagnostic procedure and treatment for their disease condition.

1.6 VARIABLES

Independent Variable :	Self Instruction Module on Prevention of worm infestion
Dependent Variable :	Level of knowledge on Prevention of worm Infestion among the mothers of under five children

1.7 ASSUMPTION

- Under five childrens are prone to get worm infestations.
- Mothers of under five children have inadequate knowledge on prevention of worm infestation.

1.8 DELIMITATION

The study is delimited to:

- The Data collection period was limited to 6 weeks.
- The study was limited to mothers of under five children those who are stayed in the hospital seven days from the date of admission in pediatric ward in Institute of Child Health and Research Centre at Government Rajaji Hospital Madurai.

1.9 PROJECTED OUTCOME

At the end of the study, the mothers will gain adequate knowledge and practice on prevention of worm infestation and which will help them to care their children in a safe manner.

Review of Literature

CHAPTER – II

REVIEW OF LITERATURE

The primary purpose of review of relevant literature is to give a broad background knowledge and understanding of the information that is available related to the research problem of interest.

Denise F Polit (2004) mentioned that a review of literature helps to lay the foundation for a study and also inspires new research ideas. It also plays a role at the end of the study, when the researchers are trying to make sense of their findings. An early literature review provides readers background for understanding of current knowledge on a topic and illuminates the significance of the new study.

This chapter includes review of literature for the study which is organized under the following headings.

PART – I REVIEW OF LITERATURE

PART - II CONCEPTUAL FRAME WORK

Studies related to:

2.1 Literature related to incidence and prevalence of worm infestation.

2.2 Literature related to causes and risk factor.

2.3 Literature related to prevention and treatment of worm infestation.

2.4 Literature related to effectiveness of self instructional module on prevention of worm infestation among mothers of under five children.

2.1 LITERATURE RELATED TO INCIDENCE AND PREVALENCE OF WORM INFESTATION

Elkins DB, Haswell-Elkins M, Anderson RM (1986). Conducted a study regarding intestinal nematode infections in fishing village communities in Southern India . The paper focuses on Ascaris lumbricoides infection and describes changes in prevalence and intensity

(worm burdens) with host age, the aggregated frequency distributions of parasite numbers per person, a density-dependent relationship between parasite fecundity and worm burden and rates of reinfection following chemotherapeutic treatment. The age-intensity of infection profile is convex in form, where maximum worm burdens are attained in children in the age range five to nine years. On the basis of juvenile to adult worm ratios, the life expectancy of Ascaris in man is estimated to be of the order of one year. Rates of reacquisition of worms after chemotherapy are shown to be dependent on host age. Wormy individuals with heavy infections are shown to be predisposed to this state such that they reacquire heavier than average worm burdens following treatment.

Haswell-Elkins M, Elkins D, Anderson RM (1989). Conducted a study on the influence of individual, social group and household factors on the distribution of Ascaris lumbricoides within a community and implications for control strategies. The distribution of Ascaris lumbricoides within a community was examined at an initial mass anthelmintic treatment programme (January 1984) and following an 11-month period of reinfection (November 1984). Similar patterns of the negative binomial parameter kappa (an inverse measure of parasite aggregation) and the proportion of parasites within the most heavily infected quartile of the community were recorded at the two dates. Significant variation in the intensity of infection was observed between households in the community. The number of family members living in the house strongly influenced the mean Ascaris burden and proportion of relatively heavy infections within adults and children. This finding suggests that the density of people in a house positively influences the frequency of exposure to infective stages of Ascaris, which in turn plays a major role in determining which individuals will harbour heavy infections. Positive correlations were recorded between the initial and reinfection burdens of individuals, relative to others in the community. The correlations were strongest in the youngest and oldest age groups and were more frequently significant among age-stratified groups of females, compared to males. A comparative examination of

hypothetical treatment strategies suggests that for Ascaris infections in this community, targetting age groups with anthelmintic treatment would probably be more cost-effective in the long term in reducing the abundance of this parasite than selective treatment of individually identified heavy infections.

Ananthakrishnan S, Nalini P, Pani SP (1997). Performed a study on intestinal geohelminthiasis in the developing world. Intestinal parasitic helminths such as roundworms (Ascaris lumbricoides), hookworms (Ancylostoma doudenale and Necator americanus) and whipworm (Trichuris trichiura) are common in the developing world. Strongyloides stercoralis, though not so common, also contributes to health problems. The prevalence of intestinal worm infestation in India varies from 5% to 76%, which is similar to that in other developing countries. These parasitic infestations are acquired by ingestion, inhalation or penetration of the skin by the infective forms. Ascaris causes many intestinal and respiratory symptoms and plays an important role in precipitating protein-energy malnutrition in undernourished children. Hookworms cause anaemia and hypoproteinaemia. In areas where hookworm infestation is endemic, 90% of pregnant mothers are anaemic. Trichuriasis as a causative agent of human disease has only recently gained attention. Heavy infestation with T. trichiura can result in severe colitis and significant blood loss. This in turn can lead to impaired cognitive functions which are reversible on treatment. Though not as widely prevalent as the other geohelminths in India, Strongyloides stercoralis infestation can be fatal in debilitated and immunosuppressed children. So far, the impact of these parasites on the health of children has been underestimated and concentrated efforts to minimize the worm load and its consequences have not been given due importance in our health policies.

Ram R et al., (2004). Did a cross-sectional study was carried out among 370 school-going children in Nepali community, aged 5-10 years, in the Siliguri subdivision of Darjeeling district revealed the prevalence of parasitic infestation to be 51.4 per cent of which 28.2% and 23.2% had single and multiple parasitism respectively. In the group of single

parasitism, A. lumbricoides was the commonest infestation (31.73%) and in multiple parasitisms, A. lumbricoides and T. Trichiura combination was found to be the most prevalent (36.05%). A significant statistical association was observed in the decrease of worm infestation rate among children with the increasing educational status of their mothers. The study also revealed that 19.73% and 18.91% of the mothers had no knowledge about mode of transmission and prevention of worm infestation respectively.

Gunawardena K et al., (2011). Conduted a study on soil-transmitted helminth infections among plantation sector schoolchildren in Sri Lanka: prevalence after ten years of preventive chemotherapy .A school-based cross-sectional survey was carried out. Faecal samples from approximately 20 children from each of 114 schools in five districts were examined using the modified Kato-Katz technique. Multivariate analysis was carried out using logistic regression, to identify risk factors for infection. Faecal samples were obtained from 1890 children. In 4/5 districts, >20% were infected with one or more helminth species. Overall combined prevalence was 29.0%; 11.6% had infections of moderate-heavy intensity. The commonest infection was Ascaris lumbricoides, present in all five districts, as was Trichuris trichiura. Hookworm was not detected in two districts. Multivariate analysis identified low altitude and maternal under-education as risk factors for all three infections. Poor household sanitation was identified as a risk factor for A. lumbricoides and hookworm, but not T. trichiura infections. The results indicate that regular mass de-worming of plantation sector children should be resumed along with more emphasis on better sanitation and health education. They show that even after 10 years of mass chemotherapy, prevalence can bounce back after cessation of preventive chemotherapy, if the initial force of transmission is strong and other long-term control measures are not concomitantly implemented.

Alexander A et al., (2011). Conducted study was conducted in South India to determine the prevalence of taeniasis by screening stool samples from 653 randomly chosen subjects, for coproantigens. The costs incurred in the project were used to estimate the cost

per case screened and treated. A one-way sensitivity analysis was carried out for varying rates of taeniasis, different screening strategies and mass therapy. Further sensitivity analysis was carried out with different manpower and test costs. The rate of taeniasis as detected by ELISA for coproantigen was 3 per 1000 (2 of 653 samples). Our study showed that mass therapy without screening for taeniasis would be the most economical strategy in terms of cost per case treated if field workers are employed exclusively for either mass therapy or screening. For each strategy, costs per case treated are higher at low prevalence of taeniasis, with a sharp rise below 15%.In places that are endemic for taeniasis and neurocysticercosis, mass therapy or screening for taeniasis should be considered. Screening by stool microscopy is not cost-effective in terms of cost per case of taeniasis treated owing to its low sensitivity.

Yami A, Mamo Y, Kebede S (2011). Performed a cross sectional study on prevalence and predictors of intestinal helminthiasis among school children in jimma zone. Children attending grades 1-8 in the schools located within 10 Kms ofthe Dam in the four bordering woredas and those living 30 Kms away from the shore line were the study subjects. Six hundred twenty four and 321 children were selected from the schools around Gilgel Gibe dam and from the schools in Bulbul, respectively. Data on background of participant was collected and stool specimen collected and processed. Data were filtered and entered into computer then analyzed using SPSS for windows version 13.0.1.Of the 937 selected individuals, 855 participated in the study giving a response rate of 91.2%. The prevalence of intestinal parasitosis was 47.1% where 174 (20%) had Ascaris lumbricoides monoinfection; 4.3% had dual infection involving Ascaris lumbricoides and hookworm and 0.2% had triple infection but all the infections were of light intensity. In addition, there was no association between prevalence of intestinal parasitosis with availability or regular use of latrine and clinical symptoms. The prevalence and intensity of intestinal parasites in the study area is lower than national, urban and rural setting of Jimma zone.

Dori GU et al.,(2011). Conducted a study on prevalence of hookworm infection and its association with anemia among patients visiting Fenan Medical Center, East Wollega Zone, in Ethiopia. Data was obtained from all study subjects and blood and fecal specimen were collected from all subjects who apparently volunteer to take part in the study. The overall prevalence of intestinal parasites was 64.9% Hookworm was the predominant (49.7%) intestinal parasite identified among the study participants. The density of hookworm egg ranged from 48 epg to 11,520 epg with mean and median values of 685 and 288 epg respectively. The observed result for hematocrit ranged from 12% to 50% with mean (SD) and median values of 34.6% (4.7) and 36% respectively. The prevalence of anemia is 65.5% among study participants. Among those subjects with hookworm, 83.9% were anemic. On the contrary only 41 (22.5%) study subjects who appeared negative for hookworm on stool examination were anemic. The prevalence of hookworm is higher and it is associated with anemia in East Wollega zone.

Nguyen NL et al., (2012). Conducted a study to estimate the prevalence of parasitic infection and nutritional status, and to evaluate the extent to which the two are associated among schoolchildren in rural Ethiopia. This is a cross sectional study of 664 students aged from 6 to 19 years old from Angolela, Ethiopia. Socio-demographic information was collected using a structured questionnaire. Anthropometric measurements were taken at the time of interview. Examinations of fecal samples for helminthic and protozoan parasitic infections were performed. Logistic regression procedures were employed to evaluate the association between stunting, underweightedness, and wasting with parasitic infections. One-third of the participants were found to have a protozoan infection, while 7.1% were found to have a helminthic infection. Approximately 11% of the students were stunted, 19.6% were wasted, and 20.8% were underweight. Severely underweight boys were 3.88-times as

likely as boys of adequate weight (odds ratio OR = 3.88, 95% confidence interval CI: 1.12-13.52) to be diagnosed with protozoan infections. Among girls, those who were severely stunted were approximately 12 times (OR = 11.84, 95%CI: 1.72-81.62) as likely to be infected with a helminthic parasite, than those who were not. Overall, there was a deficit in normal growth patterns as indicated by lower than average anthropometric measures. There is a high prevalence of intestinal parasitic infections. Stunting, wasting, and under weightedness were also prevalent, and showed patterns of associations with intestinal parasitic infections. Efforts should be made to strengthen and expand school and community-based programs that promote inexpensive, though effective, practices to prevent the spread of parasitic diseases.

Wang XB et al., (2012). Conducted a study regarding investigation on prevalence of soil-transmitted nematode infections and influencing factors for children in southwest areas of China. The prevalence of soil-transmitted nematode infections was determined by Kato-Katz technique and influencing factors were surveyed by using a standardized questionnaire, and in part of the children, the examination of Enterobius vermicularis eggs was performed by using the cellophane swab method. A total of 1 707 children were examined, with a soil-transmitted nematode infection rate of 22.2%, the crowd infection rates of Ascaris lumbricoides, hookworm, and Trichuris trichiura were 16.0%, 3.8% and 6.6% respectively and 495 children were examined on Enterobius vermicularis eggs, with the infection rate of 5.1%. The results of probit estimated analysis suggested that the effects of 4 factors on soil-transmitted nematode infections were significant (all P values were less than 0.05), namely the number of sib, educational level of mother, drinking unboiled water and raising livestock and poultry. Among the factors above, the educational level of mother could reduce the probability of infection (ME = -0.074), while the number of sib, drinking unboiled water and raising livestock and poultry could increase the probability of the infections (with ME of 0.028, -0.112 and 0.080, respectively).Soil-transmitted nematode infection rates are still in a

high level for children in southwest poor areas of China, with Ascaris lumbricoides as a priority.

Coulibaly JT et al., (2012). conducted a study regarding intestinal parasitic infections in schoolchildren in different settings of Côte d'Ivoire: effect of diagnostic approach and implications for control. In September 2010, a rapid screening was conducted in 11 schools in the Azaguié district, south Côte d'Ivoire. In each school, 25 children were examined for S. mansoni and S. haematobium. Based on predefined schistosome endemicity levels, three settings were selected, where school children aged 8-12 years were asked to provide three stool and three urine samples for an in-depth appraisal of parasitic infections. Triplicate Kato-Katz thick smears were prepared from each stool sample for S. mansoni and soil-transmitted helminth diagnosis, whereas urine samples were subjected to a filtration method for S. haematobium diagnosis. Multivariable logistic regression models were employed to analyse associations between schoolchildren's parasitic infections, age, sex and study setting. The prevalences of S. mansoni and S. haematobium infections in the initial screening ranged from nil to 88% and from nil to 56%, respectively. The rapid screening in the three selected areas revealed prevalences of S. mansoni of 16%, 33% and 78%. Based on a more rigorous diagnostic approach, the respective prevalences increased to 33%, 53% and 92% S. haematobium prevalences were 0.8%, 4% and 65% (rapid screening results: 0.0%, 0.0% and 54%). Prevalence and intensity of Schistosoma spp., soil-transmitted helminths and intestinal protozoan infections showed setting-specific patterns. Infections with two or more species concurrently were most common in the rural setting (84%), followed by the peri-urban (28%) and

urban setting (18%).The observed small-scale heterogeneity of helminths and intestinal protozoan infections has important implications for control.

Wu RF, Xiao M (2012). A survey was conducted on intestinal infections in Yangzhong city from 2003 to 2011. Fecal specimens from 29 473 individuals were tested; of those, 52 were found to be infected with intestinal nematodes. The total infection rate was 0.18%, and the infection rates of Ascaris lumbricoides, hookworm, and Trichuris trichura were 0.08%, 0.01%, and 0.09%, respectively. Totally 10 954 children were surveyed for Enterobius vermicularis infection, and the infection rate was 0.29%. In conclusion, the prevalence of intestinal nematodes of population is low in Yangzhong City. However, we still need strengthen health education and regular monitoring.

Chen BJ et al., (2012). Performed a study from 2006 to 2010, fecal samples of the inhabitants of 3 years old and above were collected every November and examined for intestinal helminth eggs by the modified Kato s thick smear technique at the 2 surveillance sites: Punan village of Zhangzhou and Gushan village of Shaowu. Cellophane tapes were used to detect pinworm eggs for children aged 3-12. Soil samples were also collected from vegetable field, lavatory, courtyard and kitchen of 20 randomly selected families (in 2 villages) each with stool egg-positive findings and examined for ascaris eggs by a modified saturated sodium nitrate floatation method. The prevalence of soil-transmitted nematode infection at the surveillance sites decreased from 45.3% (946/2087) in 2006 to 15.1% (226/1494) in 2010, with a reduction of 66.6%. Among the infected subjects, hookworm infection occupied 75%-85%, while ascaris or trichuris infections each accounted for less than 10%. In terms of infection intensity, 65.2%-85.5% of the hookworm infection was light, and majority of the infected subjects were farmers. The pinworm prevalence in children were still high although it had dropped down from 46.1% (140/304) in 2006 to 29.8% (36/121) in 2010, declined by 35.4%. In the 5 years, totally 400 soil samples from 100 families were examined and 21 samples were found ascaris egg positive with viable eggs in only one sample. The 5

year surveillance reveals a decreasing trend of the soil-transmitted nematode prevalence but shows a relatively high hookworm infection rate in the population and pinworm infection in children.

Chen J (2013). Conducted a study regarding on Surveillance of intestinal nematode infections in Nanjing City from 2008 to 2012.The eggs of intestinal nematodes were detected by Kato-Katz technique in population and eggs of Enterobius vermicularis were detected in children and low-grade primary school students by the transparent adhesive tape anal swab method.The fecal specimens from 45,645 individuals were tested, and of those, 167 were found to be infected with intestinal nematodes. The total infection rate was 0.36%, and the infection rates of Ascaris lumbricoides, hookworm, and Trichuris trichiura were 0.18%, 0.03%, and 0.15%, respectively. Totally 43,356 children and low-grade primary school students were surveyed for Enterobius vermicularis infection, and the infection rate was 0.31%.The prevalence of intestinal nematodes of population is low in Nanjing City.

2.2 LITERATURE RELATED TO CAUSES AND RISK FACTOR

Nishiura H et al., (2002). Did a study on Ascaris lumbricoides among children in rural communities in the Northern Area, Pakistan: prevalence, intensity, and associated socio-cultural and behavioral risk factors. The prevalence and intensity of Ascaris lumbricoides in 492 children from five rural villages in the Northern Area of Pakistan was examined. The overall prevalence of A. lumbricoides was 91% (95%CI 88.6-93.6) with geometric mean (GM) egg count intensities of 3985 eggs per g (epg). The most intense A. lumbricoides infections were found in children aged 5-8 years. We also investigated selected socio-cultural and behavioral variables for A. lumbricoides infections that might be relevant for the design of appropriate prevention and control programs. Univariate analysis associated A. lumbricoides intensity with age ($P=0.004$), location of household ($P<0.01$), defecation practices ($P=0.02$), soil eating habit ($P<0.01$), hand washing after defecation ($P<0.01$), and living with children under 5 years old ($P=0.02$). Multivariate analysis identified the children's

age 5-8 (P<0.01), location of household in Surngo, Askole, and Stakchun where the pilot health care model activities were not done (P<0.01), and living with children under 5 years old (P=0.03) as variables statistically associated with the intensity of A. lumbricoides. The results indicated that there were certain clear risk factors in A. lumbricoides transmission, and that its intensity was influenced by age-related behavioral and environmental factors that contribute to exposure.

Carneiro FF et al., (2002). Performed a study on the risk of Ascaris lumbricoides infection in children as an environmental health indicator to guide preventive activities in Caparaó and Alto Caparaó, Brazil. A cross-sectional survey was conducted between May and September 1998 among 1171 children under 14 years of age living in 588 dwellings selected from 11 communities. Trained interviewers used a questionnaire to identify risk factors for infection (socioeconomic, sanitation and hygiene variables) and collected stool samples from each child for parasitological tests. The overall prevalence of A. lumbricoides infection was 12.2%. The results showed the protective effects of availability of water in the washbasin and better hygiene, sanitation and socioeconomic status; the interactive effect of crowding was five times larger in households without water in the washbasin than in those having water. There was a statistically significant association between infection and children's age.

Akbar et al et al., (2007) conducted a cross sectional study in Abbottabad regarding the frequency of intestinal parasite among children below five years. The sample size was 283 children of which a very high percentage (81%) ie 230 were tested to be found positive for various intestinal parasites the main cause is due to bad hygienic practices.

Wani (2007) conducted a study in Kashmir to investigate the frequency of intestinal helminth parasites in children. 312 children were examined for different intestinal helminthes in three schools located in rural areas. 7.5% were tested positive for various intestinal parasites.

Singhi P, Singhi S (2009). A study was conducted on neurocysticercosis in children. It is a common cause of seizures and neurologic disease. Although there may be variable presentations depending on the stage and location of cysts in the nervous system, most children (> 80%) present with seizures particularly partial seizures. About a third of cases have headache and vomiting. Diagnosis is made by either CT or MRI. Single enhancing lesions are the commonest visualization of a scolex confirms the diagnosis. Some cases have multiple cysts with a characteristic starry-sky appearance. Management involves use of anticonvulsants for seizures and steroids for cerebral edema. The use of cysticidal therapy continues to be debated. Controlled studies have shown that cysticidal therapy helps in increased and faster resolution of CT lesions. Improvement in long-term seizure control has not yet been proven. Children with single lesions have a good outcome and seizure recurrence rate is low. Children with multiple lesions have recurrent seizures. Extraparenchymal NCC has a guarded prognosis but it is rare in children.

Song-Lin H (2011). Conducted a study on influencing factors on infections of human intestinal helminthes in suburb of Shangyu City. The infections of human intestinal helminthes and socioeconomic status were investigated in suburb of Shangyu City in 1990 and 2005, respectively. The results showed that the economic status, the save drinking water and latrines, working environment, and health habits and consciousness of the residents improved obviously. The infection rate of intestinal helminthes decreased significantly and the prevalence of intestinal helminthiasis was controlled effectively.

Mahmud MA et al.,(2013). Perfomed a study on risk factors for intestinal parasitosis, anaemia, and malnutrition among school children in Ethiopia. The aim of this study was to determine the risk factors associated with intestinal parasitic infections, anaemia, and malnutrition in school children, living in urban and rural areas of northern Ethiopia. Six hundred school children, aged 6-15 years, were

randomly selected in a cross-sectional survey from 12 primary schools. Sociodemographic and anthropometric data were collected. Faecal samples were examined using direct, concentration, and the Kato-Katz methods. Urine specimens were analysed for Schistosoma haematobium ova. Haemoglobin was measured using a HemoCue spectrometer. The overall prevalence of intestinal parasitosis was 72% (95% confidence interval (CI): 66-76%). The prevalence of anaemia, stunting, and thinness were 11% (95% CI: 8-13%), 35% (95% CI: 31-38%), and 34% (95% CI: 30-38%), respectively. Poor personal hygiene habits were generally associated with anaemia and nutritional deficiency (low body mass index). Multivariate logistic regression models related Schistosoma mansoni infection with boys. Boys were also more likely to be malnourished. Hookworm infection was associated with anaemia and unhygienic finger nails. Access to clean water and latrines, with some hygiene and sanitation communication activities, could improve health of children in Ethiopia.

2.3 LITERATURE RELATED TO PREVENTION AND TREATMENT OF WORM INFESTATION

Diaz Camacho SP et al., (1991). Conducted a **e**pidemiologic study regarding control of Taenia solium infections with praziquantel in a rural village of Mexico. This study reported the results of an epidemiologic survey for the detection of Taenia solium in a rural village of 559 inhabitants in Sinaloa, Mexico, as well as a large scale treatment of the population with praziquantel. The study was carried out in two stages. In stage 1, serial stool analysis of 392 persons detected a cluster of three T. solium tapeworms. A fourth T. solium tapeworm was detected through a household census, giving a 1.32% prevalence rate for this helminth. Over 70% of the population over five years of age was treated with a 10 mg/kg dose of praziquantel, and no

additional tapeworms were found. Environmental studies for the detection of Taenia sp. eggs in soil, water, and objects from the houses of tapeworm-infected individuals showed only one soil sample containing eggs compatible with Taenia sp. A total of 72 domestic pigs were examined for the presence of cysticerci under the tongue. One animal had cysts, and belonged to a household that had two T. solium tapeworm infections. Stage 2 of the study was carried out one year after large scale antihelminthic treatment (LSAT), and no infections with Taenia sp. eggs were found. No cysticercus-infected pigs were detected. Intestinal parasitosis decreased from 69.2% to 37.5%. It is concluded that LSAT with praziquantel is efficient in decreasing endemic foci of T. solium. Seropositivity to T. solium bladder fluid antigens was tested by enzyme-linked immunosorbent assay and found to be 11% before LSAT and 7% one year later. In family members living with T. solium tapeworm carriers, the number of seropositive individuals was 28%. The relative risk ratio of seropositivity for persons living in the same household with a T. solium tapeworm carrier was 2.95. Positive response was significantly higher in the 30-39-year-old age group, in which 30% were seropositive in stage 1, compared with 7% one year after LSAT. High seropositivity rates were significantly associated with tapeworm clusters as well as with individuals with a clinical history of seizures.

Awasthi S, Pande VK (2001). Conducted a study regarding to assess the effectiveness of six monthly albendazole (ABZ) for improving the weight and height of preschool children when initiated at 0.5-1 year of age in populations with a high transmission rate of intestinal roundworm, Ascaris lumbricoides. It was a cluster randomized trial in the urban slums of Lucknow, North India.Control children received 2 ml (1 ml to infants) of Vitamin A every six month whereas those in the

ABZ areas received, in addition, 400 mg of ABZ suspension (Zentel, SKB) every six month. Sixty-three and sixty-one slum areas were randomized to albendazole (ABZ) or to control groups, respectively. Children aged 0.5-1 year were recruited in April 1996 and followed up for 1.5 years. Of 1022 children recruited from control and 988 from ABZ areas, the loss to follow-up at 1.5 year was 15.6% and 14.6% respectively. Mean (+/- SE) weight gain in Kg in control versus ABZ areas was 3.04 (0.03) versus 3.22 (0.03), ($p = 0.01$). After controlling for the presence of weight-for age z-score < -2.00 at enrollment in the ordinary least square's regression model, the extra weight gain in 1.5 years in those who received ABZ plus vitamin A was 0.13 Kg (95% CI: 0.004 to 0.26 Kg., p value = 0.043) when compared to those who received only vitamin A; underweight children at enrollment benefiting more than the normal ones. It was concluded that there was an improvement in weight with six monthly ABZ over 1.5 years.

Rajendran R et al., (2003). Conducted a study on sustainability of soil-transmitted helminth control following a single-dose co-administration of albendazole and diethylcarbamazine. They evaluated the long-term impact of single-dose diethylcarbamazine plus albendazole combination therapy with that of diethylcarbamazine alone on the control of soil-transmitted helminths (STH) in 2 blocks (revenue units) of Villupuram district, south India, as part of an ongoing mass drug administration (MDA) campaign for the elimination of lymphatic filariasis in 2001. The prevalence and intensities of STHs were studied in 287 children, aged 9 and 10 years (136 in the combination therapy cohort and 151 in the diethylcarbamazine alone cohort), using the Kato-Katz technique to examine stool samples at 4 time-points (baseline, and 3 weeks, 6 months and 11 months after

MDA). The combination therapy showed long-term efficacy against STHs and the magnitude of control remained at a moderate and significant level for 11 months after MDA compared with the moderate gains of diethylcarbamazine alone. Single-dose MDA with albendazole and diethylcarbamazine combination therapy may prove to be a good strategy in treating multiple parasitic infections in endemic communities.

Sur D et al., (2005). Conducted a study regarding undertaken to measure the impact of periodic deworming with albendazole on growth status and incidence of diarrhoea in children aged 2-5 years in an urban setting in India and to assess the feasibility of local health workers implementing the procedures involved. This was a double-blind, placebo-controlled, randomized, community-based intervention trial with 702 children randomly allocated to receive either albendazole or placebo. The two study groups received two doses of albendazole (400 mg) or placebo six months apart. Mean weight increased significantly in the albendazole group compared to the control group at three months, six months and nine months following treatment ($P<0.01$, $P<0.01$ and $P<0.001$ respectively). The albendazole group also experienced fewer episodes of diarrhoea than their control counterparts (relative risk 1.3, 95% CI 1.07-1.53) with a 28% reduction. The health workers administered the correct dosage satisfactorily and there were no adverse effects. Thus, periodic mass deworming with albendazole would seem to be a safe and effective method that could be adopted at the community level or as an integral part of school health services and could be expected to improve growth and reduce the incidence of diarrhoea in children.

Keiser J.U (2008) conducted a study to assess the efficiency of dose of antihelminthics to treat worm infestation and the study result shows that there are high

cure rates with single dose of albendasole, mebendazole and pyrantel palmote against worms.

Massak (2009). Performed a study regarding community directed treatment approach was implemented and compared with the school based approach for control of schistosomiasis. This was a qualitative study consisting of indepth interview among mothers to assess the perception and experience of villagers on the implementation of the two approaches. The community directed treatment approach was well received and was successfully implemented in the villages.

Ting-Jun Z, Ying-Dan C, Long-Qi X (2011). Did a study regarding on prevention and treatment of ascariasis in demonstration plots of integrated control from 2006 to 2009.The integrated intervention measures included health education, mass chemotherapy, safe water and sanitary toilets. The changes of infection rates of Ascaris lumbricoides in residents were observed before and after the intervention.With the 3-year's intervention, the Ascaris lumbricoides infection rates decreased from 17.81% to 2.52%, the rate of mass chemotherapy was 81.65%, which covered more than 6.2 million person-time, the awareness rates of parasitic disease control knowledge among the residents raised from 45.11% to 95.99%, and 84.09% of local people were supplied with safe water and 50.30% of families had sanitary toilets. The Ascaris lumbricoides infection rate decreases dramatically through the 3-year's intervention.

Humphries D et al., (2012). Conducted a study regarding the promise and pitfalls of mass drug administration to control intestinal helminth infections. Recent efforts at global control have centered on mass drug administration (MDA) of

praziquantel and benzimidazole anthelminthics to reduce the prevalence and intensity of schistosomiasis and soil-transmitted nematode infections, respectively. This review summarizes progress and potential challenges associated with MDA. Data from studies conducted in endemic areas show that chemotherapeutic interventions can reduce prevalence and intensity of infection with intestinal helminths, and have the potential to reduce transmission within populations. However, consistent benefits in high-risk groups, including children and pregnant women, have not been established. The long-term benefits of MDA remain to be determined, and the potential for emerging resistance to impact effectiveness have not yet been defined. Whereas studies evaluating MDA have shown benefit in certain populations, intensive monitoring and evaluation, as well as a commitment of resources for new drug development, are essential for long-term control or elimination of intestinal helminth infections.

Bieri FA et al., (2013). Conducted a study on health-education package to prevent worm infections in Chinese schoolchildren. We conducted a single-blind, unmatched, cluster-randomized intervention trial involving 1718 children, 9 to 10 years of age, in 38 schools over the course of 1 school year. Schools were randomly assigned to the health-education package, which included a cartoon video, or to a control package, which involved only the display of a health-education poster. Infection rates, knowledge about soil-transmitted helminths (as assessed with the use of a questionnaire), and hand-washing behavior were assessed before and after the intervention. Albendazole was administered in all the participants at baseline and in all the children who were found to be positive for infection with soil-transmitted helminths at the follow-up assessment at the end of the school year. At the follow-up assessment, the mean score for the knowledge of helminths, calculated as a

percentage of a total of 43 points on a questionnaire, was 90% higher in the intervention group than in the control group (63.3 vs. 33.4, P<0.001), the percentage of children who washed their hands after using the toilet was nearly twice as high in the intervention group (98.9%, vs. 54.2% in the control group; P<0.001), and the incidence of infection with soil-transmitted helminths was 50% lower in the intervention group than in the control group (4.1% vs. 8.4%, P<0.001). No adverse events were observed immediately (within 15 minutes) after albendazole treatment. The health-education package increased students' knowledge about soil-transmitted helminths and led to a change in behavior and a reduced incidence of infection within 1 school year.

Awasthi S et al., (2013). Performed a study on population deworming every 6 months with albendazole in 1 million pre-school children in North India: DEVTA, a cluster-randomised trial. Participants in this cluster-randomised study were children in catchment areas of 8338 ICDS-staffed village child-care centres (under-5 population 1 million) in 72 administrative blocks. Groups of four neighbouring blocks were cluster-randomly allocated in Oxford between 6-monthly vitamin A (retinol capsule of 200,000 IU retinyl acetate in oil, to be cut and dripped into the child's mouth every 6 months), albendazole (400 mg tablet every 6 months), both, or neither (open control). Analyses of albendazole effects are by block (36 vs 36 clusters). The study spanned 5 calendar years, with 11 6-monthly mass-treatment days for all children then aged 6-72 months. Annually, one centre per block was randomly selected and visited by a study team 1-5 months after any trial deworming to sample faeces (for presence of worm eggs, reliably assessed only after mid-study), weigh children, and interview caregivers. Separately, all 8338 centres were visited every 6 months to monitor pre-school deaths (100,000 visits, 25,000 deaths at age 1·0-6·0 years [the primary

outcome]). Estimated compliance with 6-monthly albendazole was 86%. Among 2589 versus 2576 children surveyed during the second half of the study, nematode egg prevalence was 16% versus 36%, and most infection was light. After at least 2 years of treatment, weight at ages 3·0-6·0 years (standardised to age 4·0 years, 50% male) was 12·72 kg albendazole versus 12·68 kg control (difference 0·04 kg, 95% CI -0·14 to 0·21, p=0·66). Comparing the 36 albendazole-allocated versus 36 control blocks in analyses of the primary outcome, deaths per child-care centre at ages 1·0-6·0 years during the 5-year study were 3·00 (SE 0·07) albendazole versus 3·16 (SE 0·09) control, difference 0·16 (SE 0·11, mortality ratio 0·95, 95% CI 0·89 to 1·02, p=0·16), suggesting absolute risks of dying between ages 1·0 and 6·0 years of roughly 2·5% albendazole versus 2·6% control. No specific cause of death was significantly affected. Existing ICDS village staff can be organised to deliver simple pre-school interventions sustainably for many years at low cost, but regular deworming had little effect on mortality in this lightly infected pre-school population.

Zhou X et al., (2013) . Did a study on effect of health education intervention in schools of Yanrui Town, Yushan County. In the Zhaiqian Primary School, Yanrui Town, Yushan County in a hilly schistosomiasis endemic area, a new mode of health education intervention, i.e. "rewards and punishment + advise others by using one's experience + teachers' participation" was carried out, and the knowledge, attitude and practice of schistosomiasis prevention of the pupils, and the schistosome infection rates of the pupils were investigated and the results were analyzed and compared before and after the intervention. Among 204 pupils investigated, the awareness rate of schistosomiasis prevention knowledge increased from 26.47% before the intervention to 86.76% and 99.51% one and two years after the intervention, respectively; the rate of correct attitude increased from 17.04% to 73.04% and 100%,

respectively; the rate of the infested water contact decreased from 83.33% to 26.96% and 0, respectively; the schistosome infection rate decreased from 2.94% to 0.49% and 0, respectively.

Parikh DS et al., (2013) . Conducted a study on Knowledge, attitudes and practices among parents and teachers about soil-transmitted helminthiasis control programs for school children in Guimaras, Philippines. Written knowledge, attitudes and practices surveys were distributed to parents (N = 531) and teachers (N = 105) of students at 11 elementary schools in Guimaras Province, the Philippines. The survey addressed attitudes about mass drug administration (MDA), knowledge about STH control, hygienic practices, and acceptability of distributing deworming tablets among teachers. More than 90% of parents and teachers held favorable attitudes towards MDA. Sixty-nine percent of parents and 75.5% of teachers believed stool exams were necessary before MDA. Thirty-seven percent of parents stated they would not allow teachers to administer deworming tablets and 91.5% of parents feared teachers would not detect side effects of the medication. Forty-eight percent of teachers felt they could safely give deworming tablets and 81.4% of teachers were afraid of managing the side effects of deworming tablets. Forty-seven point eight percent of parents and 42.2% of teachers stated defecation in the open occured in their community. Although attitudes toward STH control were largely favorable, misconceptions about the MDA strategy, lack of support for teachers giving deworming tablets, and the practice of open defecation still exist as barriers to STH control efforts.

Hafiz I et al., (2013). Conducted a study on school-based mass distributions of mebendazole to control soil-transmitted helminthiasis in the Munshiganj and Lakshmipur districts of Bangladesh: Bangladesh's national deworming program targets school-age children (SAC) through bi-annual school-based distributions of

mebendazole. Qualitative and quantitative methods were applied to identify challenges related to treatment monitoring within the Munshiganj and Lakshmipur Districts of Bangladesh. A treatment coverage cluster survey revealed that bi-annual primary school-based distributions proved to be an effective strategy in reaching school-attending SAC, with rates between 63.0% and 73.3%. However, the WHO target of regular treatment of at least 75% of SAC has yet to be reached. Particularly low coverage was seen amongst non-school attending children (11.4-14.3%), most likely due to the lack of national policy to effectively target this vulnerable group. Survey findings on water and sanitation coverage were impressive with the majority of households and schools having access to latrines (98.6-99.3%) and safe drinking water (98.2-100%). The challenge now for the Bangladeshi control program is to achieve the WHO target of regular treatment of at least 75% of SAC at risk, irrespective of school-enrollment status.

Suchdev PS et al.,(2014). Conducted a study on soil-transmitted helminth infection and nutritional status among urban slum children in Kenya. To evaluate the nutritional impact of soil-transmitted helminth (STH) infection, we conducted a cross-sectional survey of 205 pre-school (PSC) and 487 school-aged children (SAC) randomly selected from the surveillance registry of the Centers for Disease Control and Prevention of the Kibera slum in Kenya. Hemoglobin, iron deficiency (ID), vitamin A deficiency (VAD), inflammation, malaria, anthropometry, and STH ova were measured. Poisson regression models evaluated associations between STH and malnutrition outcomes and controlled for confounders. Approximately 40% of PSC and SAC had STH infection, primarily Ascaris and Trichuris; 2.9% of PSC and 1.1% of SAC had high-intensity infection. Malnutrition prevalence among PSC and SAC was anemia (38.3% and 14.0%, respectively), ID (23.0% and 5.0%, respectively),

VAD (16.9% and 4.5%, respectively), and stunting (29.7% and 16.9%, respectively). In multivariate analysis, STH in PSC was associated with VAD (prevalence ratio [PR] = 2.2, 95% confidence interval = 1.1-4.6) and ID (PR = 3.3, 95% confidence interval = 1.6-6.6) but not anemia or stunting. No associations were significant in SAC. Integrated deworming and micronutrient supplementation strategies should be evaluated in this population.

Yap P et al.,(2014). A study was conducted on effect of deworming on physical fitness of school-aged children in Yunnan, China: a double-blind, randomized, placebo-controlled trial. The double-blind, randomized, placebo-controlled trial was conducted . Children, aged 9-12 years, were treated with either triple-dose albendazole or placebo, and monitored for 6 months post-treatment. Physical strength was determined with grip strength and standing broad jump tests. Body height and weight, the sum of skinfolds, and hemoglobin levels were recorded as secondary outcomes. Children receiving triple-dose albendazole scored slightly higher in the primary and secondary outcomes than placebo recipients, but the difference lacked statistical significance. Trichuris trichiura-infected children had 1.6 ml kg(-1) min(-1) (P = 0.02) less increase in their VO2 max estimate and completed 4.6 (P = 0.04) fewer 20-m laps than at baseline compared to non-infected peers. Similar trends were detected in the VO2 max estimate and grip strength of children infected with hookworm and Ascaris lumbricoides, respectively. In addition, the increase in the VO2 max estimate from baseline was consistently higher in children with low-intensity T. trichiura and hookworm infections than in their peers with high-intensity infections of all soil-transmitted helminths (range: 1.9-2.1 ml kg(-1) min(-1); all P<0.05).They found no strong evidence for significant improvements in physical

fitness and anthropometric indicators due to deworming over a 6-month follow-up period.

Staudacher O et al., (2014). A study was conducted on soil-transmitted helminths in southern highland Rwanda: associated factors and effectiveness of school-based preventive chemotherapy. Six hundred and twenty-two children (rural, 301; urban, 321) were included preceding the administration of a single dose of 500 mg mebendazole. Before treatment, and after 2 and 15 weeks, STH infection was determined by Kato-Katz smears and by PCR assays for Ascaris lumbricoides. Soil-transmitted helminth (STH) infection was present in 38% of rural and in 13% of urban schoolchildren. Ascaris lumbricoides accounted for 96% of infections. Of these, one-third was detected by PCR exclusively. Factors associated with STH infection differed greatly between rural and urban children. Likewise, STH infection was associated with stunting and anaemia only among urban children. The cure rate after 2 weeks was 92%. Among eight non-cleared A. lumbricoides infections, seven were submicroscopic. Reinfection within 3 months occurred in 7%, but the rate was higher among rural children, and with initially present infection, particularly at comparatively high intensity. PCR assays may help in detecting low-level infections persisting after treatment. In southern Rwanda, mebendazole is highly effective against the STH infections predominated by A. lumbricoides.

2.4 LITERATURE RELATED TO EFFECTIVENESS OF SELF INSTRUCTIONAL MODULE ON PREVENTION OF WORM INFESTATION AMONG MOTHERS OF UNDER FIVE CHILDREN :-

Anah et al., (2008) conducted a study in Nigeria regarding worm infestation and anemia among under five children. The study sample was 350 children out of which 174(49.7%) had intestinal helminthes, 64.4% Ascaris lumbricoides, 10.9% hook worms and 1.1% Trichuris trichuria. The result of the study was found that 56.9% of children has anemia.

Ajwani K D et al., (2008) conducted a study regarding worm infestation among under five children at kanpur. 3200 stools of under five children was examined. the result shows that 575 stool samples were positive.

Aswathi et al., (2008) conducted a cross-sectional study regarding the prevalence and risk factors associated with worm infestation in children below 5 years in rural India. Over all 909 fecal samples examined. Combined prevalence of infestation with intestinal geohelminths treatable by albendazole and other intestinal parasites non-treatable by albendazole was 50.3% (457/909) and 51.6% (469/909), respectively. Exclusive use of hand pump water (OR = 1.79, CI = 1.36-2.35, P < 0.001) and use of hand pump water plus field defecation increased risk of geohelminthic infection (OR = 1.75 CI = 1.34-2.30, P < 0.001) while use of well water (OR = 0.45 CI= 0.33-0.60, P < 0.001) and exclusive use of soap and water practice for hand washing after defecation was protective (OR = 0.54, CI = 0.40-0.73, P < 0.001). Since almost half the children are infected with intestinal geohelminths treatable by albendazole, targeted deworming of population in this age group should be considered.

PART - II

CONCEPTUAL FRAME WORK

Good research usually integrates research findings into an orderly, coherent system. Such integration typically involves linking research and existing knowledge through review of prior research on a topic and by identifying or developing an appropriate conceptual framework.

Conceptual framework provides the investigator the guidelines to proceed in attending the objectives of the study based on theory. It is a scientific representation of the steps, activities and outcome of the study.

The present study aims at developing and assesses the effectiveness of self instructional module on knowledge regarding prevention o f worm infestation among mothers of under five children.

The conceptual framework for this study was developed by applying Ludwig Von Bertalanffy's General system theory. According to this general system theory, a system consists of a set of interacting components, all contributing to the overall goal of the system. Any system consists of input, through process and output. This study aims at developing and evaluating self instructional module on knowledge of mothers regarding prevention of worm infestation. According to this theorist **Input** refers to the types of information that enters into the system from the environment through its boundaries. In this study, the input includes demographic variables and assessment of structured questionaries'. **Throughput** is the operational phase. It is the process that allows the input to be transformed. In this study, throughput is the transformation of knowledge to the people. **Output** is any information that leaves the system and enters to the environment through system boundaries to find out adequate and inadequate

knowledge. In this study it is the assessing of the post test knowledge regarding the intervention

The process of development of self instructional module includes preparatory phase as input, the implementation phase as process and evaluation and feedback of the system as the output.

Input:

According to theorist, input refers to the types of information that enters into the system from the environment through its boundaries. In this study, the input includes demographic variables such as age, parent educational status, family income, religion, type of family, occupational status, family size, age of the child and no.of children. Assessment of knowledge by administering structured knowledge questionaries' regarding prevention of worm infestation.

Through process:

In this study, throughput is the transformation of knowledge to among mothers of under five children by the way of teaching regarding prevention of worm infestation using the prepared self instructional module. Here the investigator implements self instructional module to the mothers of under five children about prevention of worm infestation including, knowledge on general information, types ,causes, signs and symptoms of worm infestation and prevention of worm infestation.

Output:

In this study it is the assessing of the post test knowledge regarding prevention of worm infestation. The Knowledge scores were interpreted as excellent, good,

average, poor and very poor. The under five mothers gained the knowledge was measures through post-test.

Feedback:

The feedback is the environment responses to the system. Feedback may be positive or negative or neutral. In this study input regarding assessment of knowledge by administering structured questionaries about prevention of worm infestation. Through put was the activity phase where self instructional module along with teaching program , was administered regarding meaning of worm infestation, types, causes, signs and symptoms, complications, prevention of worm infestation. Output was the change in knowledge on worm infestation after the self instructional module with teaching program which was measured by using a structured interview questionnaire on prevention of worm infestation. Feedback emphasized to strengthen the input and throughput. It is necessary if the result showed any inadequate knowledge on worm infestation.

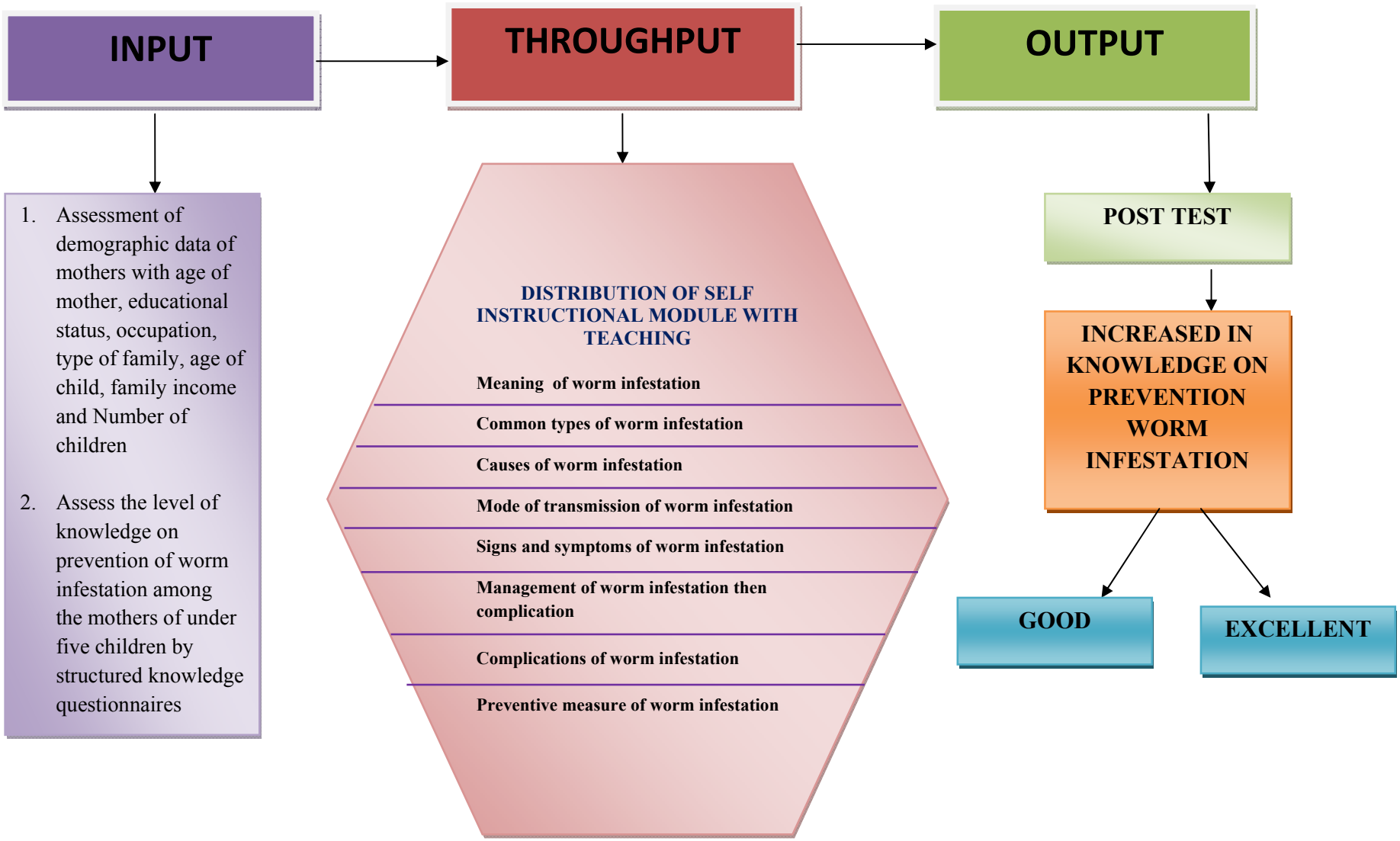


Fig.1 MODIFIED LUDWIG VON BERTALANFFY GENERAL SYSTEM THEORY, (1968)

Methodology

CHAPTER III

METHODOLOGY

Research methodology is a pathway by which the researcher intended to solve the research problems systematically. It involves the series of procedures in which the investigator starts from initial identification of the problem to its final conclusion. This chapter deals with research approach, research design, setting of the study, study population, sample size, sampling technique and criteria for sample selection. It also deals with development of tool, procedure for data collection and plan for data analysis.

3.1 RESEARCH APPROACH

It is a quantitative approach in which one group pre-test post-test design was used. Pre-experimental design involves the manipulation of an independent variable. (Polit and Beck 2004). The study aimed to evaluate the effectiveness of self instructional module on prevention of worm infestation among mothers of under-five children.

3.2 RESEARCH DESIGN :Pre-experimental design was selected to assess effectiveness of self instructional module on prevention of worm infestation among mothers of under-five children. **One group pre-test post-test design** was used.

GROUP	PRETEST	INTERVENTION	POST-TEST
Experimental Group	O_1	X	O_2

O_1 - Pretest
O_2 - Post test
X - Self Instructional Module

3.3 SETTINGS OF THE STUDY

The study was conducted in the pediatric ward at Institute of Child Health and Research Centre, Government Rajaji Hospital, Madurai. The hospital was started in the year 1940. It is approximately 3000 bedded multi-speciality hospital. It is the biggest hospital in south Tamilnadu with adequate transport facilities. The pediatric wing is named as Institute of Child Health and Research Centre which has six medical units and two surgical units. The bed strength of Institute of Child Health and Research Centre is 200 in which pediatric medical wing is 120 bedded. This Institute has providing meritorious service to the people of south districts of Tamilnadu.

3.4 TARGET POPULATION

The target population comprises of mothers of under-five children

3.5 ACCESSIBLE POPULATION

The accessible population comprises of mothers of under five children those who are admitted in pediatric ward in Institute of Child Health and Research Centre at Government Rajaji hospital Madurai.

3.6 SAMPLE

The mothers of under five children those who are admitted in pediatric ward in Institute of Child Health and Research Centre at Government Rajaji hospital Madurai and fulfilling the inclusion criteria.

3.7 SAMPLE SIZE

The total sample of the study consists of 60 mothers of under five children in Institute Of Child Health And Research Centre at Government Rajaji Hospital Madurai .

3.8 SAMPLING TECHNIQUE

Samples were selected by consecutive sampling technique.

3.9 CRITERIA FOR SAMPLE SELECTION

INCLUSION CRITERIA

- Mothers those who are willing to participate.
- Mothers those who are available during the period of data collection.
- Mothers those who are able to read and speak tamil.

EXCLUSION CRITERIA

- Mothers those who are not staying hospital more than seven days.
- Mothers those who are not having under five children.

3.10 DESCRIPTION OF TOOL

- Section A:

  Selected socio demographic variable such as age, religion, education, occupation, monthly family income, type of family, location of the family, food pattern and sources of information.

- Section B :

A structured knowledge questionnaires to assess the level of knowledge on prevention of worm infestation among mothers of under five children .

3.11 SCORING PROCEDURE

- Section A : No score was allotted for the socio demographic variables
- Section B : A structured knowledge questionnaires was used . It contains 20 questions. If the answer is correct, the sample will get '1' mark. If it is wrong, the sample will get '0' mark.

LEVEL OF KNOWLEDGE	SCORES
Very Poor	**0-4**
Poor	**5-8**
Average	**9-12**
Good	**13-16**
Excellent	**17-20**

3.12 TESTING OF TOOL

Testing of quantitative tool is a major criterion for assessing its quality and adequacy. After developing the tool/instrument, it is must that investigator should establish the validity and reliability of that tool.

Validity

Validity is the degree to which an instrument measures what it is supposed to measure. The tool was given to five experts in the field of pediatrician and Child Health nursing. Based on their suggestions the validity of the tool was confirmed.

Reliability

The reliability of a measuring instrument is a major criterion for assessing its quality and adequacy. Reliability is the consistency with which it measures the target attribute. The reliability was established by Test-Retest method which was 0.7273 (p=0.0001).

3.13 PILOT STUDY

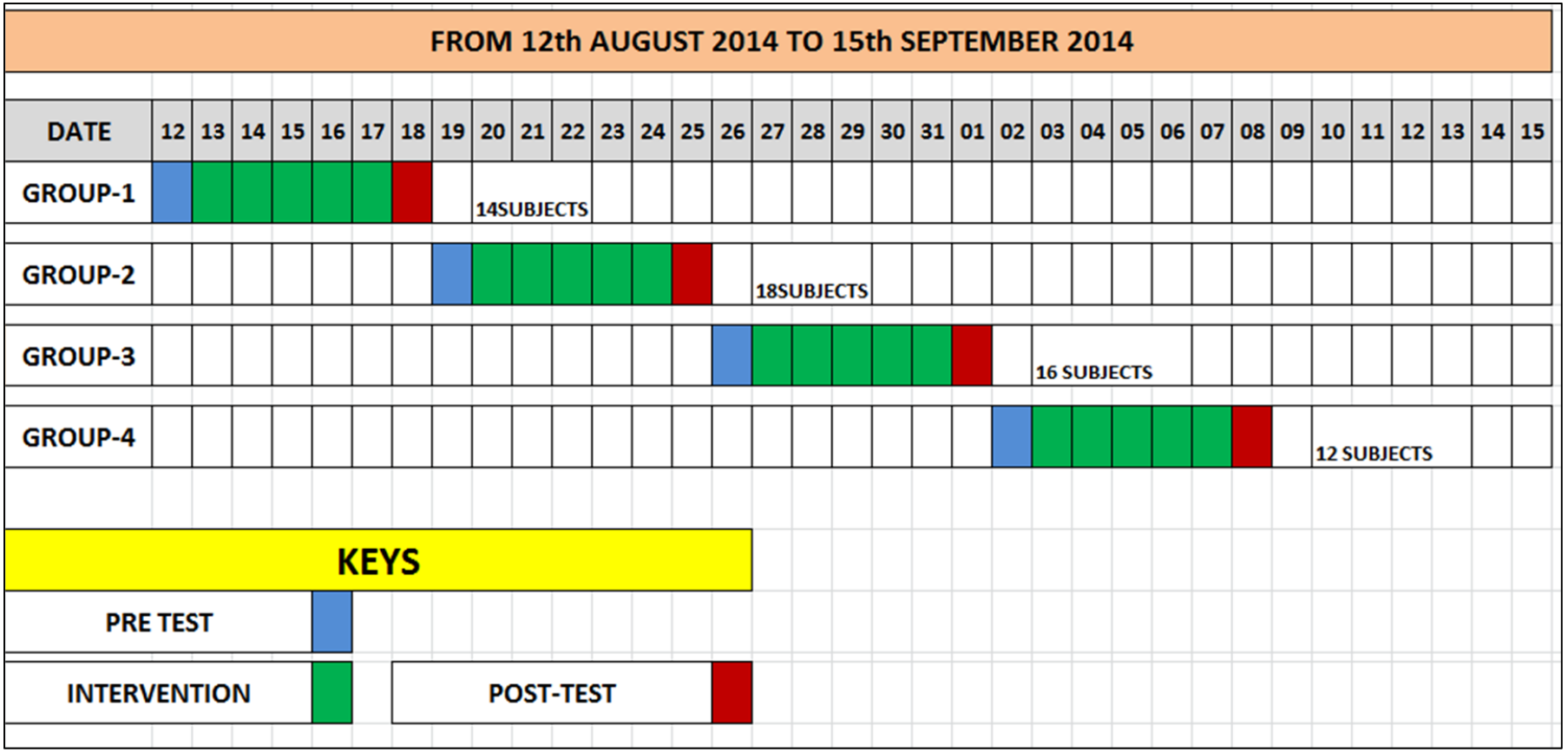
Pilot study was conducted in the pediatric ward, Institute of Child Health and Research Centre at Government Rajaji Hospital Madurai to test the feasibility, relevance and practicability of the intervention .It was carried over on between 01-09-2014 to 07-09-2014 with 10 samples. Pilot study revealed that calculated' value (5.532) was significant at p = 0.05 level. Analysis revealed that Self Instructional Module had a significant effect in increasing the knowledge level of mothers of under-five children regarding prevention of worm infestation. It revealed that the study was feasible.

3.14 INTERVENTION

Intervention	:	Self Instructional Module on prevention of worm infestation with explanation
Frequency	:	One session at morning
Duration of session	:	30 minutes
Duration of therapy	:	Seven consecutive days.

The researcher taught and elicited their response by using structured knowledge questionnaires among mothers of under-five children.

DATA COLLECTION PROCEDURE SCHEDULE



3.15 ETHICAL CONSIDERATION

All respondents were carefully informed about the purpose of the study and their part during the study and how the privacy was guarded. The confidentiality of the study result was ensured. Thus the investigator followed the ethical guidelines which were issued by the research committee.

3.16 DATA COLLECTION PROCEDURE

Formal permission was obtained from the Principal, College of Nursing, Madurai Medical College, The Director, Department of Pediatrics, Institute of Child Health and Research Centre and Independent Ethical Committee at Government Rajaji Hospital Madurai-20 to conduct the study.

On the first day of admission in pediatric ward, the mothers of under-five children were approached and consent was obtained after fully explaining the procedure of the study and the rights of the clients. Based on the criteria for sample selection the subjects were selected using consecutive sampling technique. Session started with introduction of self, establishment of rapport, explanation regarding the purpose and nature of the study and benefits of participating during the whole study programe. Pre test was done to evaluate the level of knowledge on prevention of worm infestation by using Structured knowledge Questionnaires The pre test questionnaire was collected after completing. After the pre test, the self instructional module was given to the mothers in the form of Tamil book regarding the prevention of worm infestation .Teaching was given with the self instructional module on the day of pretest for 30 minutes . daily investigator visited the mothers of under five children, if they have doubts, were clarified for seven

consecutive days. On 7th day post test was conducted by using the same structured knowledge questionnaire for the same group. The same procedure was followed for the next group of mothers of under five children.

3.17. PLAN FOR DATA ANALYSIS

DESCRIPTIVE STATISTICS

The basic statistical techniques such as mean, standard deviation, range and mean score percentage of described demographic variables will be computed and interpreted suitably.

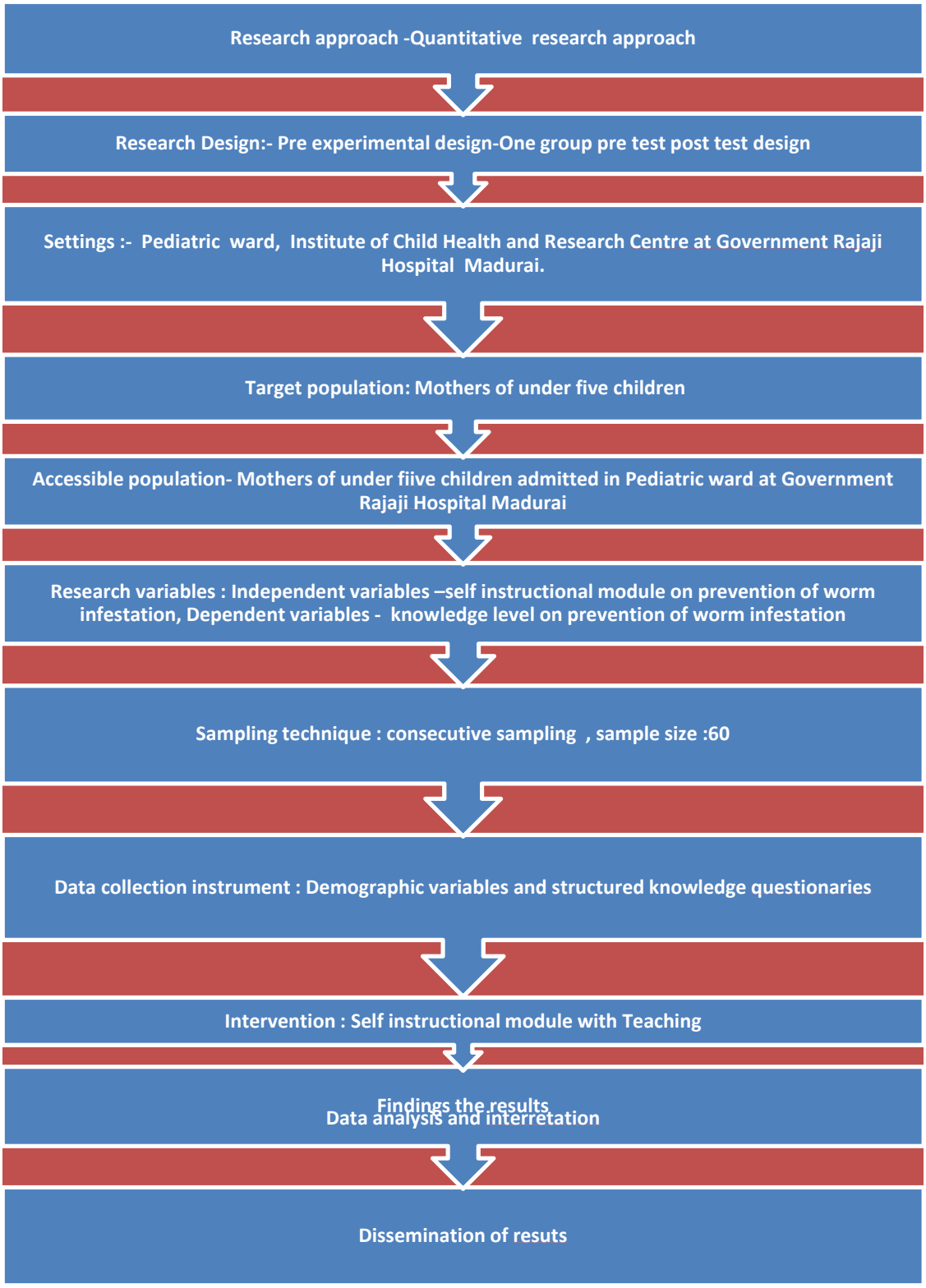
INFERENTIAL STATISTICS

- Paired "t" test used to compare pre test and post test knowledge score.
- Chi square test used to find out the association between the level of knowledge and Selected socio demographic variables of mothers of under five children.

3.18.PROTECTION OF HUMAN SUBJECTS

Prior to pilot study and main study approval was obtained from the dissertation committee for research proposal. Permission was obtained from the Principal, College of Nursing, Madurai Medical College, Dean, Government Rajaji Hospital, Madurai-20 and Director, Institute of Child Health and Research Centre at Govenment Rajaji Hospital Madurai-20 to conduct the study. The purpose and other details were explained to the mothers/care givers of the study participants and informed consent was obtained from them.

FIG. 2. SCHEMATIC REPRESENTATION OF THE STUDY



Data Analysis And Interpretation

CHAPTER-IV
DATA ANALYSIS AND INTERPRETATION

This chapter deals with the analysis and interpretation of the data collected. Analysis is a method for rendering quantitative, reliable, meaningful and providing intelligible information. So that the research problem can be studied and tested which including the relationship between the variables.

OBJECTIVES OF THE STUDY:

- To assess the level of knowledge on prevention of worm infestation among mothers of under five children .
- To evaluate the effectiveness of self instructional module on prevention of worm infestation among mothers of under five children .
- To determine the association between level of knowledge on prevention of worm infestation with selected socio demographic variables.

ORGANIZATION OF DATA:

The data collected was analyzed using appropriate statistical methods, tabulated and the results are described as follows.

Section I: Distribution of subjects according to socio demographic variables.

Section II: Description the level of knowledge on prevention of worm infestation among mothers of under five children by conducting pre-test and post-test.

Section III: Effectiveness of the self instructional module on prevention of worm infestation among mothers of under five children by comparing mean pre-test and post-test knowledge score and by using paired 't' test.

Section IV: Association between level of knowledge with selected socio demographic variables.

SECTION : I

DISTRIBUTION OF SUBJECTS ACCORDING TO SOCIO DEMOGRAPHIC VARIABLES

TABLE.1

FREQUENCY AND PERCENTAGE DISTRIBUTION OF DEMOGRAPHIC PROFILES OF MOTHERS OF UNDER FIVE CHILDREN

(n=60)

Demographic data	**f**	**%**
1.Age of mothers:		
20-25 years	10	16.7
26-30 years	29	48.3
31-35 years	21	35
Above 35 years	0	0
2.Religion:		
Hindu	39	65
Muslim	15	25
Christian	6	10
Others	0	0
3.Educational status :		
Primary	13	21.7
Middle school	30	50
Secondary	16	26.7
Degree	1	1.6
4.Occupation:		
House wife	40	66.7
Private job	8	13.3
Business/Company	12	20
Government	0	0

5.Type of family :		
Nuclear family	34	56.7
Joint family	24	40
Extended family	2	3.3
6.Family income :		
Below 5000	25	41.7
5001-10000	33	55
10001-20000	2	3.3
Above 20001	0	0
7.Methods of drainage system:		
Open	21	35
Closed	29	48.3
Under drainage system	10	16.7
8.Exposure to source of health information :	11	18.3
Self learning	26	43.3
Mass media	16	26.7
Friends	7	11.7
Health personnel		
9.Health services availed from:		
PHC	12	20
Sub-centre	25	41.7
Nursing home	18	30
Hospital	5	8.3
10.Type of water supply:		
Tap water	59	98.3
Well water	1	1.7
Tank water	0	0

11.place of defecation:		
Open field	18	30
Public latrines	18	30
Home	24	40
Soil pit	0	0
12.Age of children:		
>1year	7	11.9
1-2years	23	38.9
3-4years	22	37.3
4-5years	7	11.9

Above table reveals that the demographic information of children those who were participated in the study.

In considering the age of mother 48.3% of were belongs to26-30 years of age, 35% were in 31-35 years, and remaining 16.7% of were in 20-25 years of age. Majority of the mothers were from the age group of 26-30 yrs.

With respect to Religion, 65% of mothers were Hindu religion, 25% were Muslim and remaining 10% were from Christian. Majority of mothers from Hindu religion (65%).

Regarding education 50 % of mothers educated upto middle school , 26.7 % educated upto secondary school , 21.7% educated upto primary education and remaining 1.6% were educated upto degree. Majority of the mothers were educated upto middle school (50%).

On the basis of occupation 66.7% were as house wife , 20% were worked in company or business, 13.3% were worked in a private job. Majority of mothers were as house wife (66.7%).

Considering family 56.7% of mothers were from nuclear family, 40% were from joint family and remaining 3.3% were from extended family. Majority of mothers were from nuclear family (56.7%) .

With the view of family income 55% of mothers were earned between 5001-10000, 41.7% of mothers were earned below 5000, and remaining 3.3% were earned between 10001 -20000. Majority of mother were earned between 5001-10000 (55%).

Considering methods of drainage system 48.3% of mothers were used closed system, 35% were used open system and remaining 16.7% were used under drainage system.. Majority of mothers were used closed system of drainage system (48.3%).

Regarding the exposure to source of health information 43.3% were received through mass media, 26.7% were received through friends, 18.3% were received through self learning and remaining 11.7% were received through health personnel. Majority of mothers were received health information through mass media (43.3%).

41.7% of mothers were availed health services from sub-centre, 30% were availed from nursing home, 20% were availed from primary health centre, and remaining 8.3% were availed from hospital. Majority of mothers were availed health services from sub-centre (41.7%).

Based on the type of water supply 98.3% were received water from tap, 1.7% were received water from well. Majority of mothers were received water from tap (98.3%).

Regarding place of defecation 40% were used home, 30% were used public latrines, 30% were used open field. Majority of mothers used home for defecation (40%).

Considering age of children, 38.9% of mothers have children between 1-2 years of age, 37.3% of mothers have children between 3-4 years of age, 11.9% of mothers have children between 0-1 years of age and remaining 11.9% of children between the age of 4-5 age group. Majority of mothers have children between the age of 1-2 years of age (38.9%).

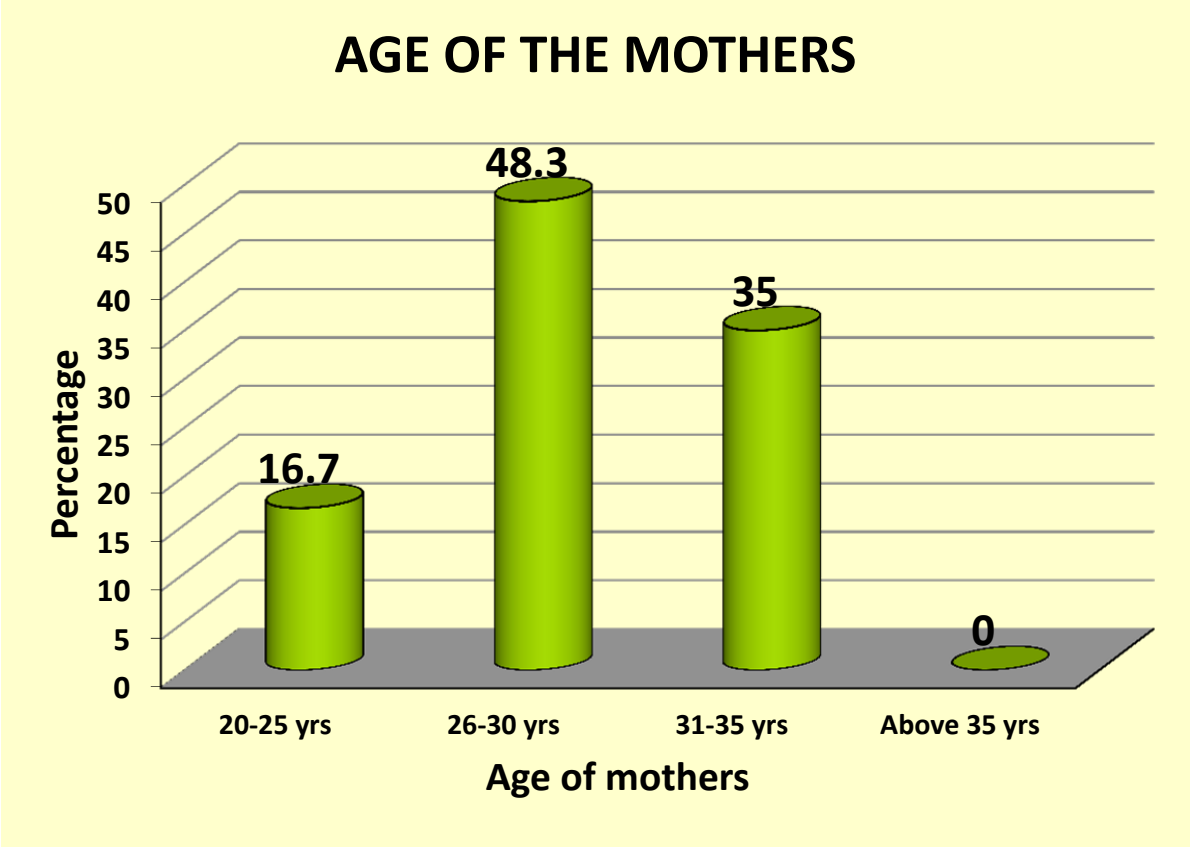


Fig 3. cylindrical diagram depicts distribution of mothers of under five children according to their age

Majority of mothers 29 (48.3%) belongs to 26-30 years of age, 21 (35%) were in 31-35 years, and remaining 16.7% of were in 20-25 years of age. .

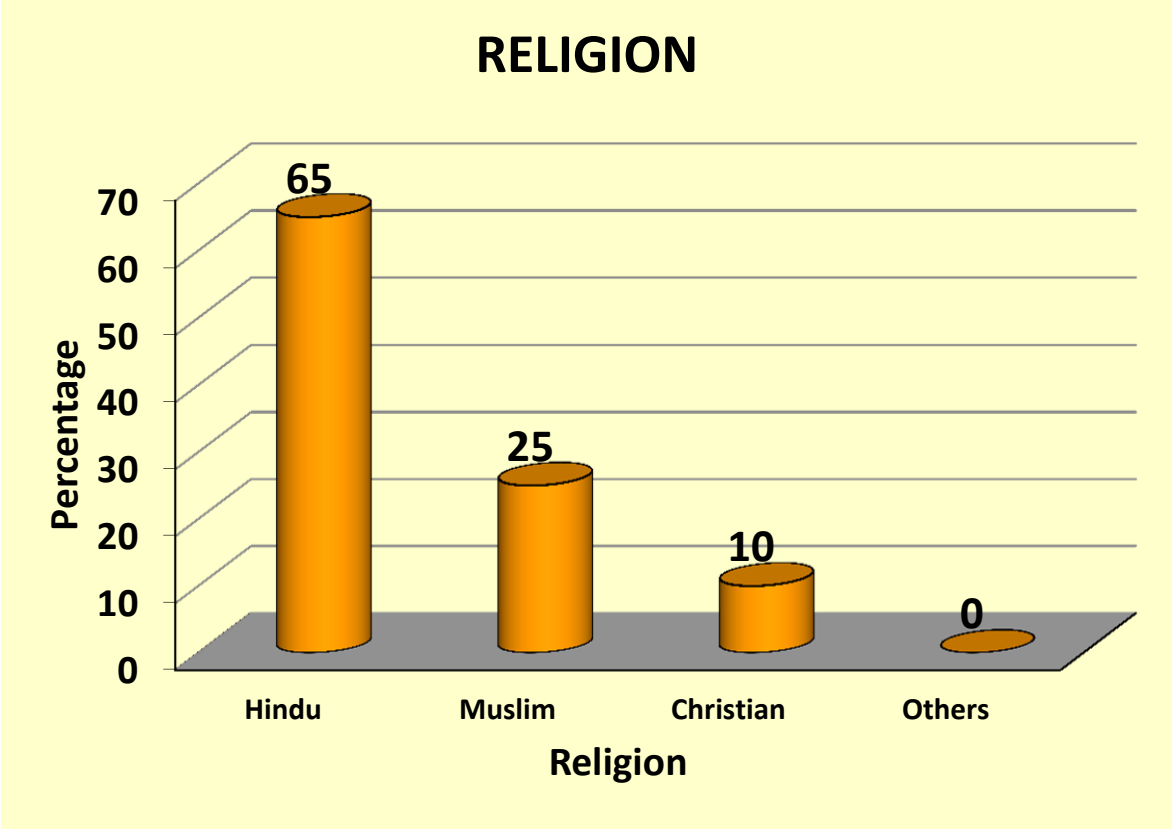


Fig 4. Cylindrical diagram depicts distribution among mothers of under five children according to their religion

Majority of mothers 39(65%) were belonged to hindu, 15 (25%) were Muslim , and remaining 6(10%)were from Christian.

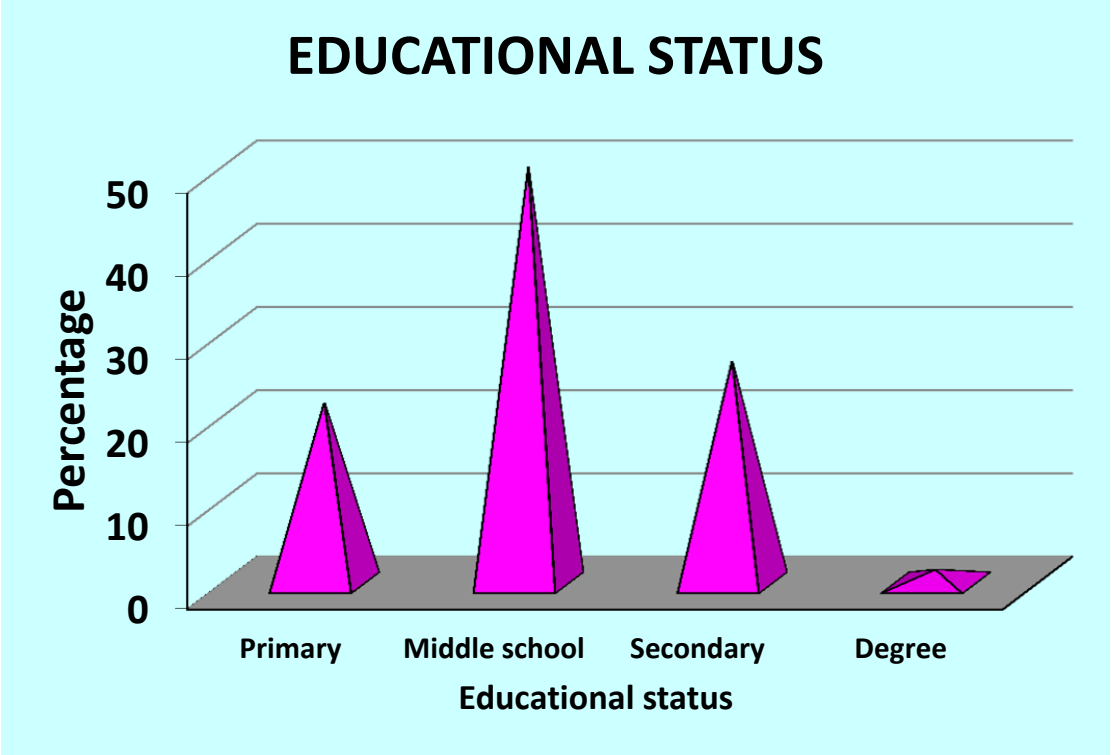


Fig.5. Pyramid diagram depicts distribution mothers of under five children according to their educational status .

Majority of the mothers were educated upto middle school 30(50%)., 26.7 % educated upto secondary school , 21.7% educated upto primary education and remaining .6% were educated upto degree.

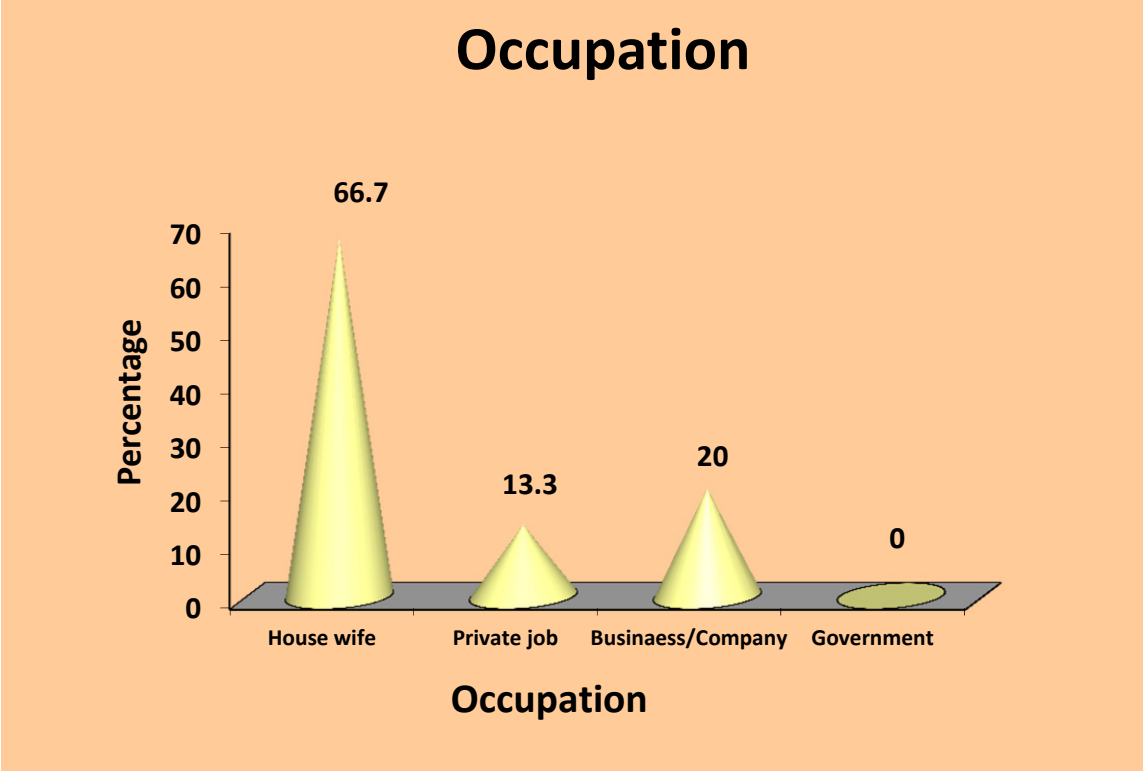


Fig 6. Cone diagram depicts distribution of mothers of under five children according to their occupation .

Majority of the mothers 40(66.7%) were house wife. 12 (20%) were worked in company or business, 8(13.3%) were worked in a private job.

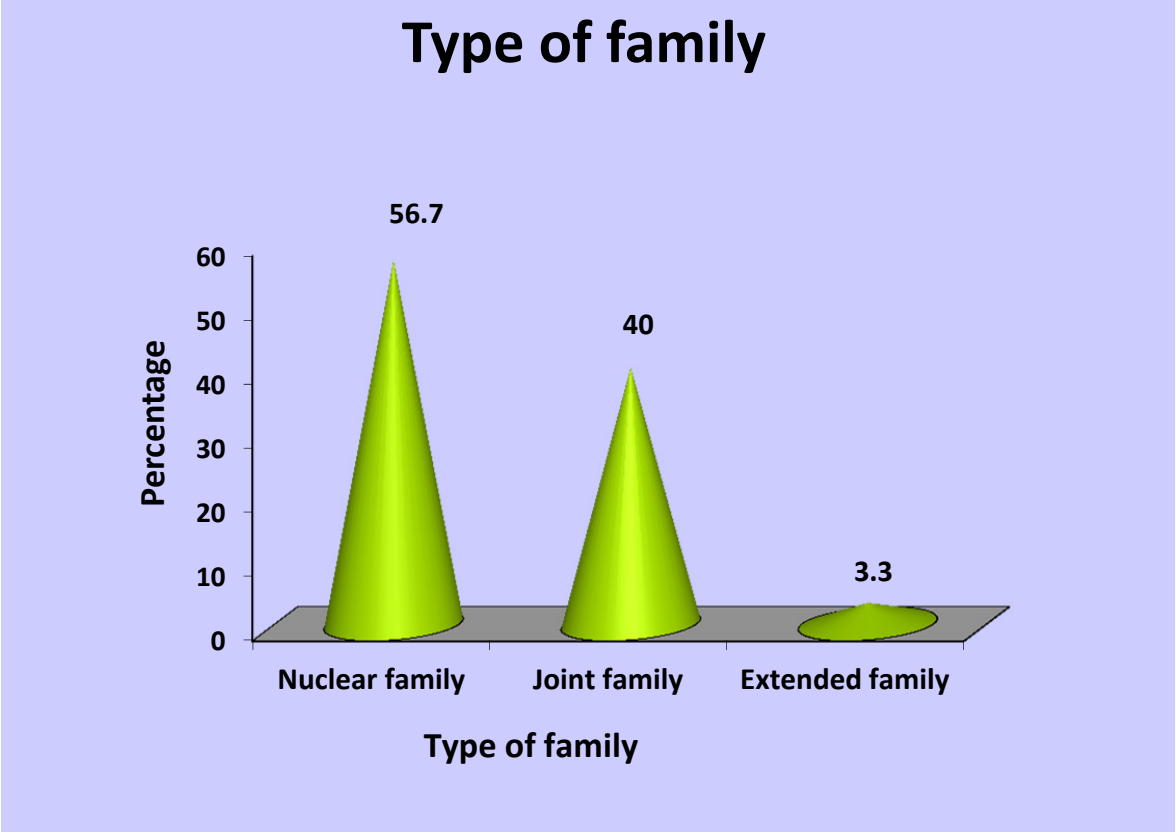


Fig.7: Cone diagram depicts distribution of mothers of under five children according to their type of family .

Majority of mothers 34 (56.7%) were from nuclear family, 24 (40%) were from joint family and remaining 3.3% were from extended family.

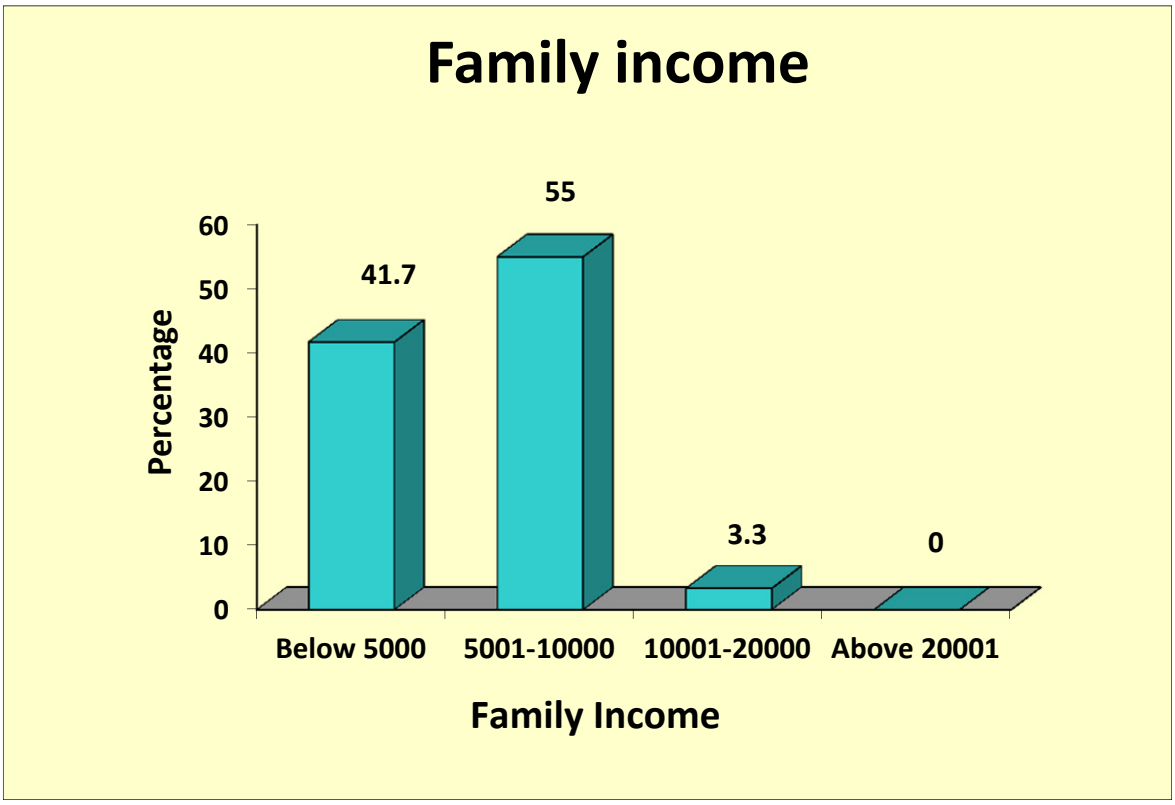


Fig.8. Bar diagram depicts distribution of mothers of under five children according to their family income .

Majority of the mothers 33 (55%) were earned family income Rs. 5001-10000,25 (41.7%) of mothers were earned below 5000, and remaining 3.3% were earned between 10001 -20000.

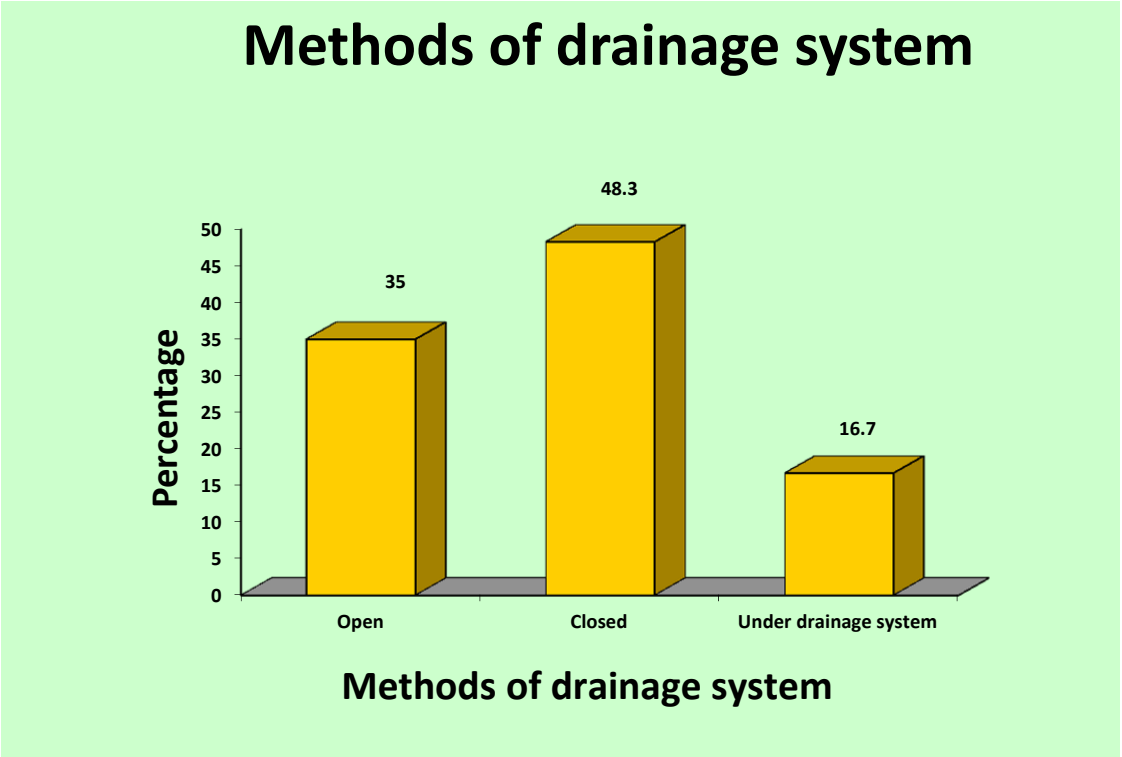


Fig 9. Bar diagram depicts distribution of mothers of under five children according to their drainage system .

Majority of the mothers 29 (48.3%) used closed method of drainage system,21 (35%) were used open system and remaining 16.7% were used under drainage system.

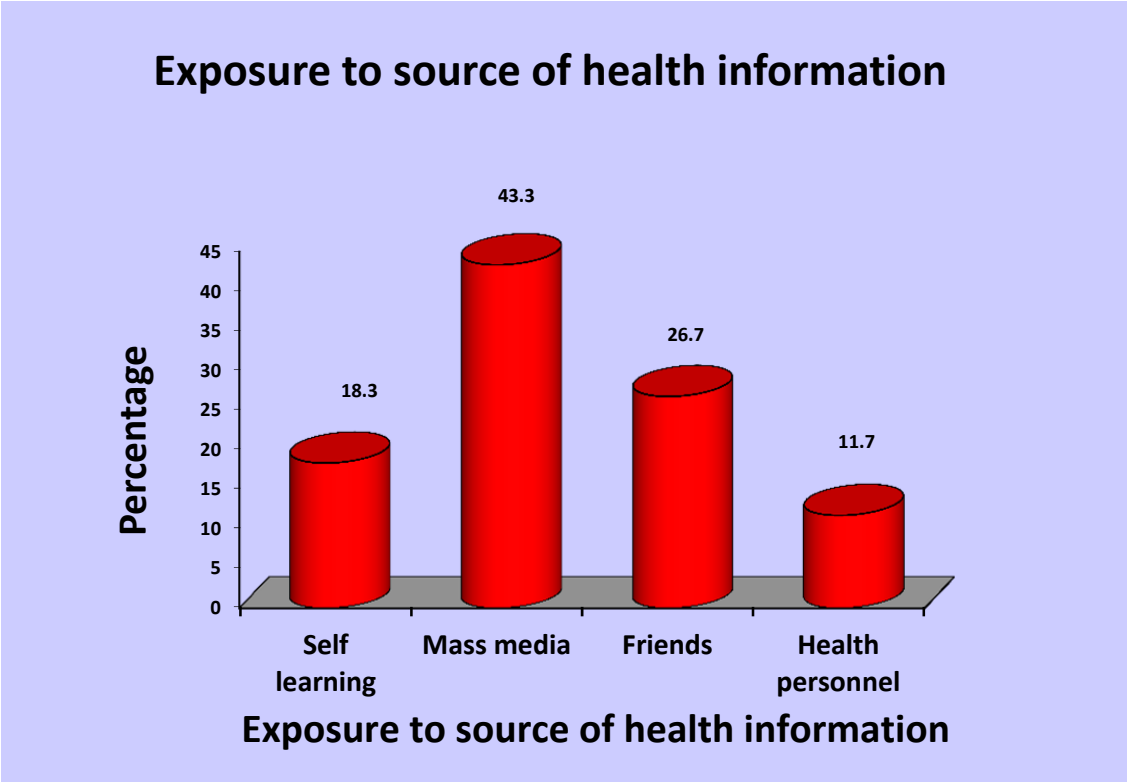


Fig.10 . Cylindrical diagram depicts distribution of mothers of under five children according to their exposure to the source of health information.

Majority of mothers 26 (43.3%) got health information from mass media, 16 (26.7%) were received through friends, 11 (18.3%) were received through self learning and remaining 7 (11.7%)were received through health personnel

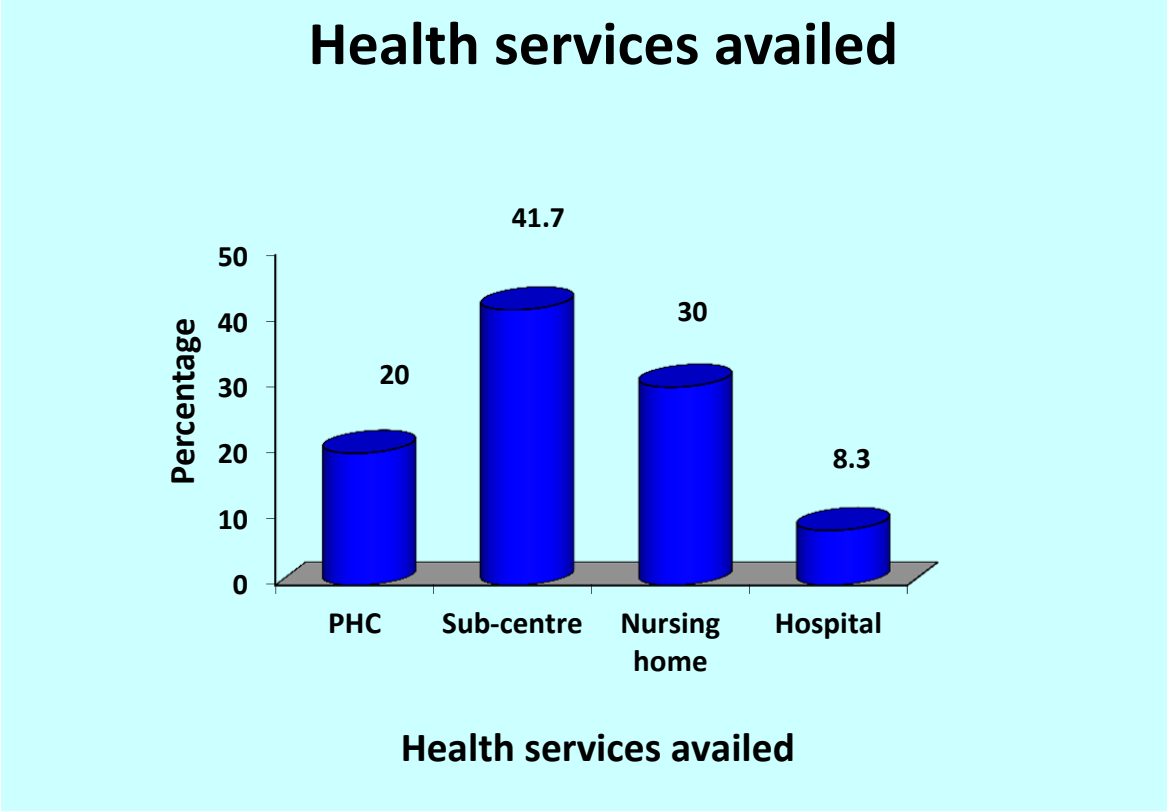


Fig11.cylinderical diagram depicts distribution of mothers of under five children according to their health services availed

Majority of mothers 25 (41.7%)were availed health services from Subcentre , 12 (20%) were availed from primary health centre, and remaining (8.3%)were availed from hospital.

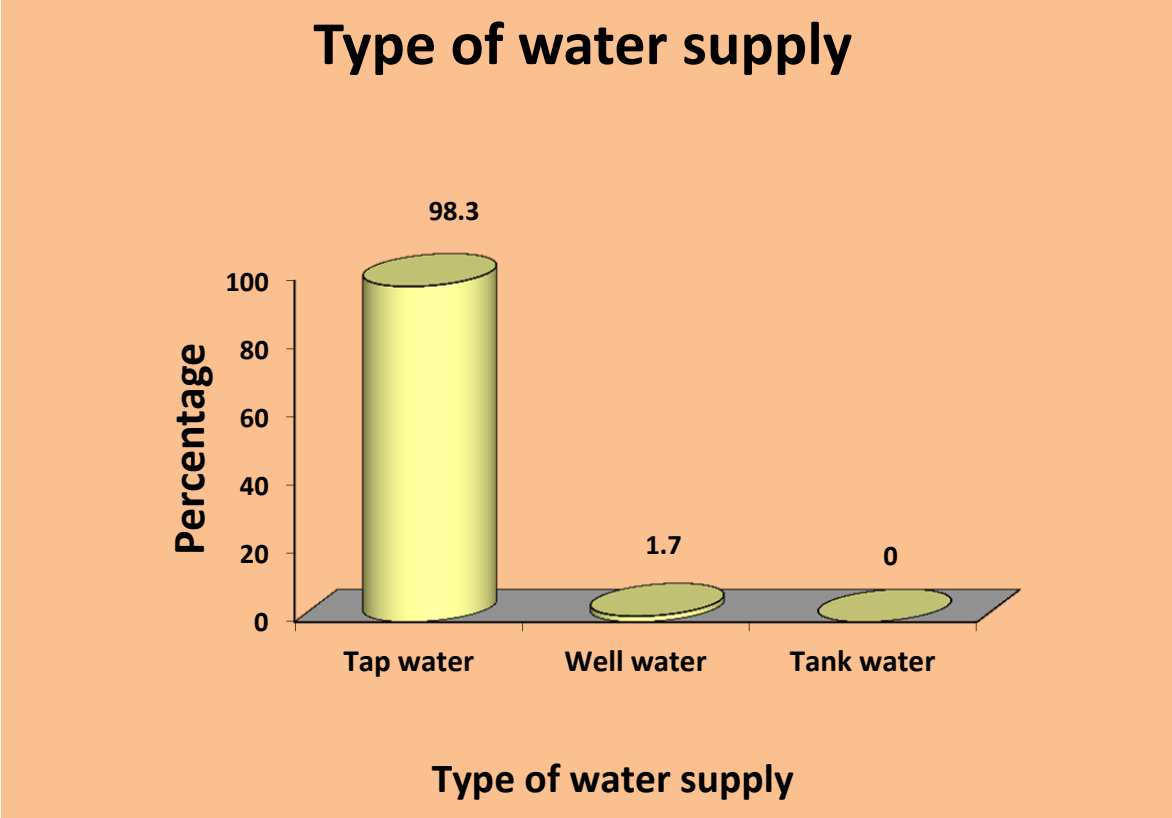


Fig 12 : Cylinderical diagram depicts distribution of mothers of under five children according to their type of water supply .

Majority of the mothers 59 (98.3%) got drinking water from tap , 1 (1.7%) were received water from well.

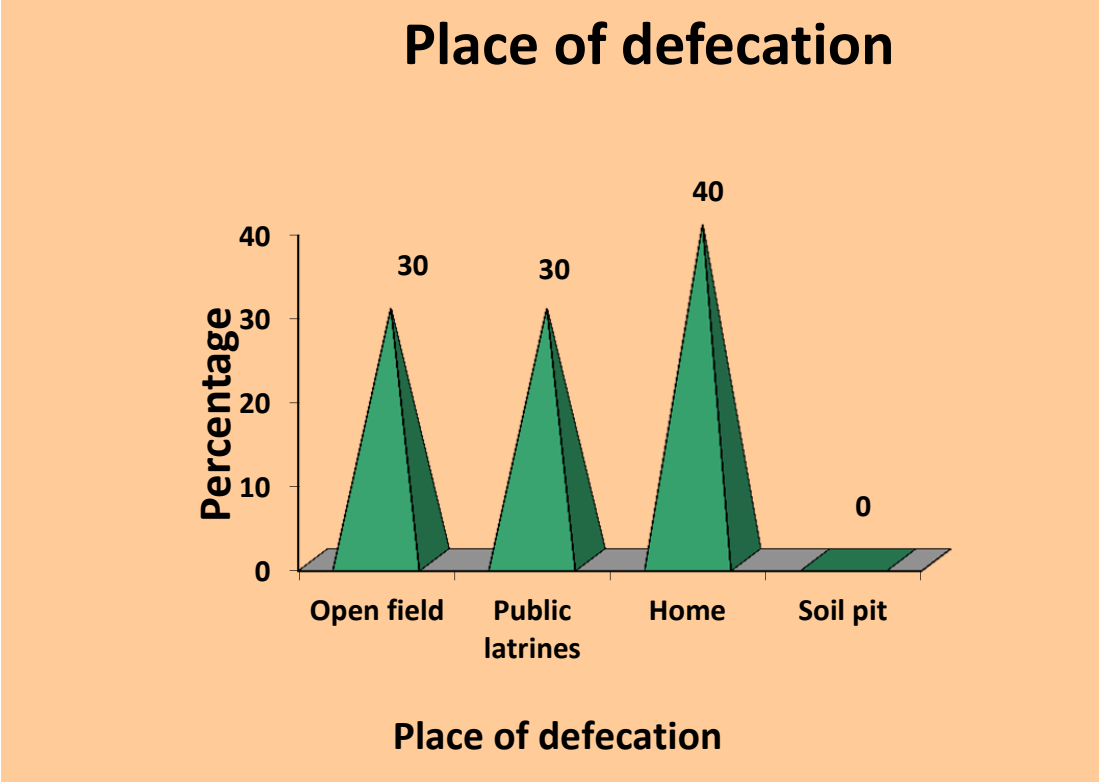


Fig13 : Pyramid diagram depicts distribution of mothers of under five children according to their place of defecation .

Majority of the mothers 24 (40%)were practiced place for defaecation in Home itself, 18 (30%) were used public latrines, 18(30%) were used open field.

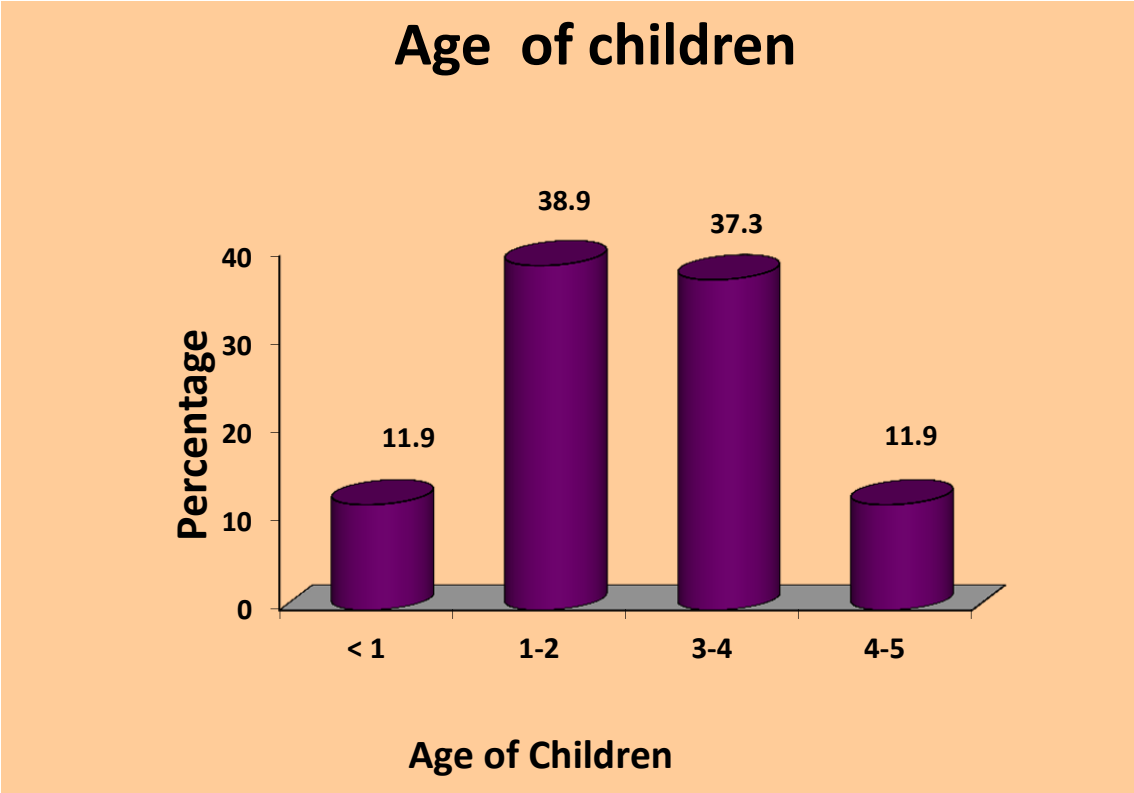


Fig.14 : Cylindrical diagram depicts distribution of mothers of under five children according to their age of children .

Majority of the mothers 23 (38.9%) are having children between 1-2 years of age, 22 (37.3%) of mothers have children between 3-4 years of age, 7 (11.9%)of mothers have children between 0-1 years of age and remaining 11.9% of children between the age of 4-5 age group.

SECTION II

DESCRIPTION THE LEVEL OF KNOWLEDGE ON PREVENTION OF WORM INFESTATION AMONG MOTHERS OF UNDER FIVE CHILDREN BY CONDUCTING PRE-TEST AND POST-TEST

TABLE 2

FREQUENCY AND PERCENTAGE DISTRIBUTION OF PRE-TEST KNOWLEDGE OF MOTHERS OF UNDER FIVE CHILDREN

Level of knowledge	Pre test	
	f	%
Very poor	2	3.3
Poor	40	66.7
Average	18	30
Good	0	0
Excellent	0	0
Total	60	100

Above table shows that most of them (66.7%) are in poor knowledge, 30% are average knowledge and only 3.3% are in very poor knowledge in pre-test on prevention of worm infestation among mothers of under five children.

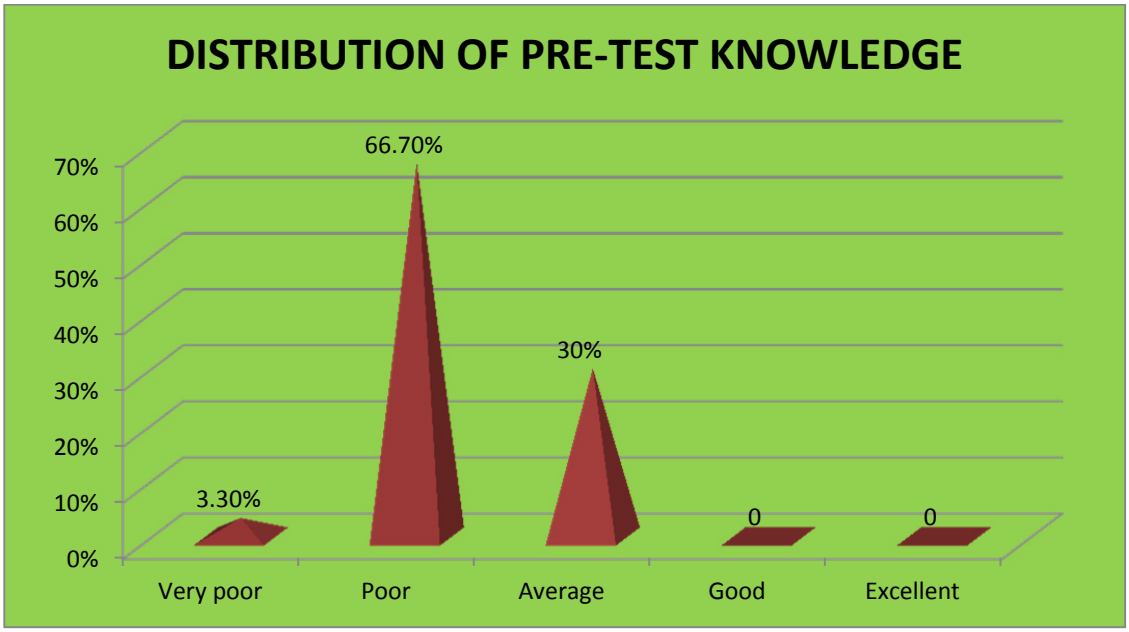


Fig 15. Cone diagram depicts distribution on pre test level of knowledge of mothers of under five children

Majority of mothers were 40 (66.6) in poor knowledge, 18 (30%) were average knowledge and only 3.3% were in very poor knowledge.

TABLE 3

FREQUENCY AND PERCENTAGE DISTRIBUTION OF POST-TEST KNOWLEDGE OF MOTHERS OF UNDER FIVE CHILDREN

Level of knowledge	Post test	
	f	%
Very poor	0	0
Poor	0	0
Average	0	0
Good	22	36.7
Excellent	38	63.3
Total	60	100

Above table reveals that post-test result shows that 63.3% are in excellent knowledge and 36.7% are in good knowledge.

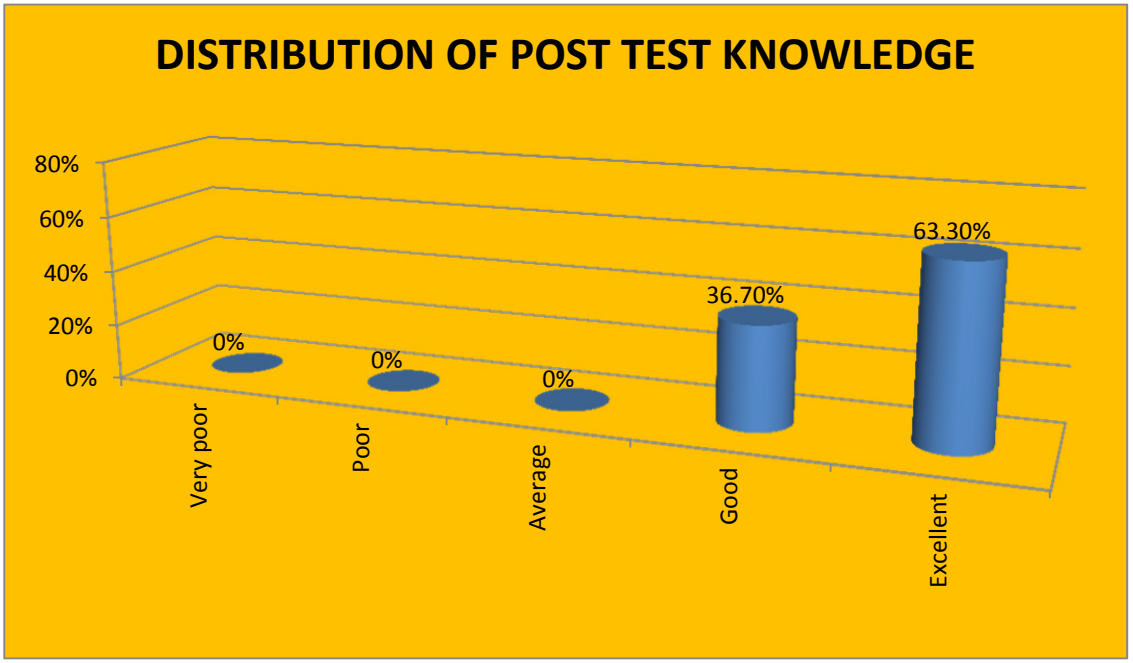


Fig 16.Cylinderical diagram depicts distribution of post-test level of knowledge of mothers of under five children.

Majority of mothers of under fiv e children were 38 (63.3%) in excellent knowledge and 22 (36.7%) were in good knowledge.

TABLE - 4

FREQUENCY AND PERCENTAGE WISE DISTRIBUTION OF PRE AND POST-TEST KNOWLEDGE AMONG MOTHERS OF UNDER FIVE CHILDREN.

Level of knowledge	Pre test		Post test	
	f	%	f	%
Very poor	2	3.3	0	0
Poor	40	66.7	0	0
Average	18	30	0	0
Good	0	0	22	36.7
Excellent	0	0	38	63.3
Total	60	100	60	100

Above table shows that most of them (66.7%) are in poor knowledge, 30% are average knowledge and only 3.3% are in very poor knowledge in pre-test on prevention of worm infestation among mothers of under five children. Post-test result shows that 63.3% are in excellent knowledge and 36.7% are in good knowledge. In pre-test, very poor, poor, and average scorer were gained good and excellent knowledge on prevention of worm infestation. It represents that self instructional module is significantly very effective.

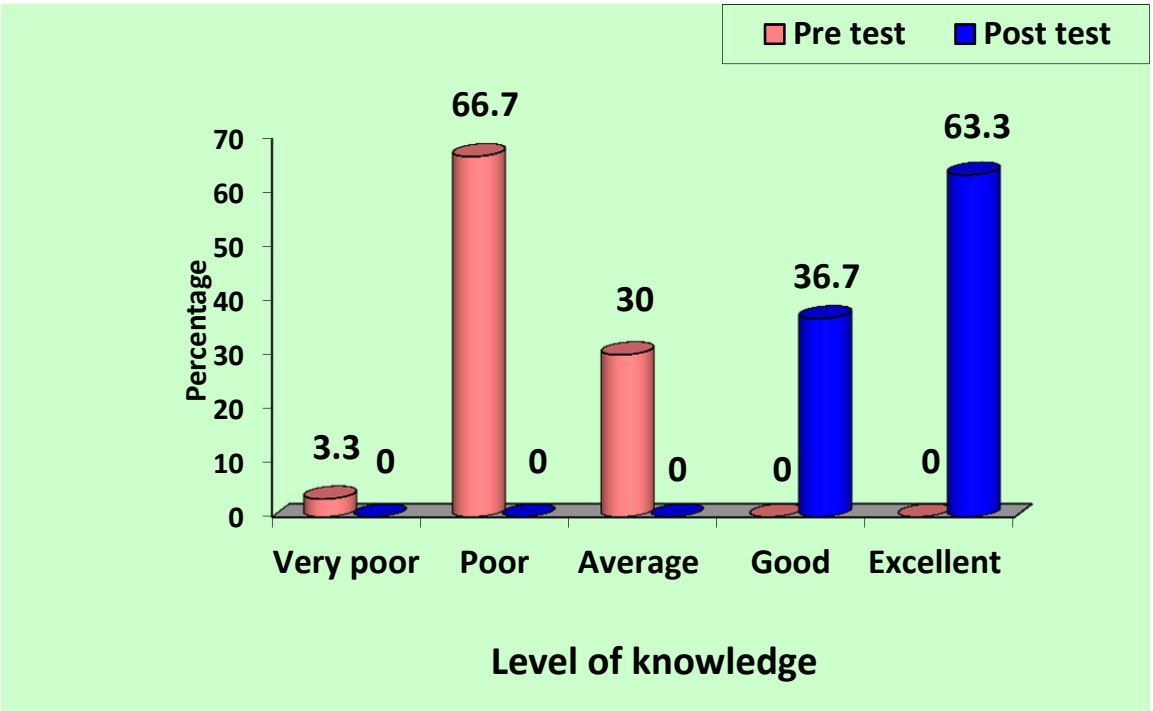


Fig17. Clinderical diagram depicts distribution of comparison of pre-test and post-test results of prevention of worm infestation among mothers of under five children in Institute of Child Health and Research centre at Government Rajaji Hospital Madurai.

Post-test result shows that 63.3% are in excellent knowledge and 36.7% are in good knowledge. In pre-test, very poor, poor, and average scorer were gained good and excellent knowledge on prevention of worm infestation. It represents that self instructional module is significantly very effective.

TABLE 5

MEAN, SD AND MEAN% OF PRE-TEST KNOWLEDGE LEVEL AMONG MOTHERS OF UNDER FIVE CHILDREN

Subject	Max score	Range	Pre test		
			Mean	SD	Mean %
Level of knowledge	20	4-11	7.52	1.76	38

Above Table -5 shows that pre-test score of mothers of under five children regarding knowledge on prevention of worm infestation. Range is 4-11, mean score is 7.52, standard deviation is 1.76 and mean percentage is 38%.

TABLE 6

MEAN, SD AND MEAN% OF POST-TEST KNOWLEDGE LEVEL AMONG MOTHERS OF UNDER FIVE CHILDREN.

Subject	Max score	Range	Post test		
			Mean	SD	Mean %
Level of knowledge	20	13-20	16.92	1.42	85

The Table No.6 shows that post-test score knowledge on prevention of worm infestation among mothers of under five children . Range is 13-20, mean score is16.92, standard deviation is 1.42 and mean percentage is 85%.

TABLE 7

COMPARISON OF PRE AND POST-TEST MEAN, SD AND MEAN %

KNOWLEDGE LEVEL AMONG MOTHERS OF UNDER FIVE CHILDREN

Subject	Max score	pre test			post test			Difference in mean %
		Mean	SD	Mean %	Mean	SD	Mean %	
Level of knowledge	20	7.52	1.76	38	16.92	1.42	85	47

Pre-test and Post-test results shows that the self instructional module is more effective on prevention of worm infestation among mothers of under five children . Mothers of under five children gained more knowledge on prevention of worm infestation.

SECTION III

Effectiveness of the self instructional module on prevention of worm infestation among mothers of under five children by comparing mean pre-test and post-test knowledge score and by using paired 't' test.

TABLE 8

PAIRED "T" TEST WAS FOUND TO ASSESS THE EFFECTIVENESS OF SELF INSTRUCTIONAL MODULE ON PREVENTION OF WORM INFESTATION AMONG MOTHERS OF UNDER FIVE CHILDREN

Subject	pre test		post test		Mean difference	't'-value	P-value
	Mean	SD	Mean	SD			
Level of knowledge	7.52	1.76	16.92	1.42	9.4	30.22	**P<0.001*** **

*-P<0.05 , significant and **-P<0.01 &***-P<0.001 , Highly significant

Above table shows that the level of knowledge on pre-test and post- test mean score is 7.52 and 16.92 respectively, SD score is 1.76 and 1.42 respectively. Mean difference between pre-test and post-test is 9.4. Paired 't' test value is 30.22. The calculated value (30.22) is much higher than the table value (2.340) at P< 0.001 level of significance. So the researcher observed that there is a **highly significant** increase of knowledge on prevention of worm infestation among mothers of under five children in Institute of Child Health and Research Centre, Madurai and also self instructional module is very much effective .

SECTION IV

Association between level of knowledge with selected socio demographic variables.

TABLE 9

ASSOCIATION BETWEEN POST TEST TO ASSESS THE EFFECTIVENESS OF SELF INSTRUCTIONAL MODULE ON PREVENTION OF WORM INFESTATION AMONG MOTHERS OF UNDER FIVE CHILDREN

Demographic variables	Good		Excellent		χ^2	p-value
	f	%	f	%		
1.Age of mothers:						
20-25 years	7	11.7	3	5		
26-30 years	10	16.7	19	31.7	6.34	0.042*
Above 35 years	2	3.3	16	53.3	(df=2)	
2.Religion:						
Hindu	12	20	27	45		
Muslim	7	11.7	8	13.3	1.68	0.430
Christian	3	5	3	5	(df=2)	
Others	0	0	0	0		
3.Educational status :						
Primary	8	13.3	5	8.3		
Middle school	12	20	18	30	8.21	0.042*
Secondary	2	3.3	14	23.3	(df=3)	
Degree	0	0	1	1.7		

4.Occupation:						
House wife	16	26.7	24	40		
Private job	3	5	5	8.3	0.897	0.639
Business/Company	3	5	9	15	(df=2)	
Government	0	0	0	0		
5.Type of family :						
Nuclear family	14	23.3	20	33.3		
Joint family	8	13.3	16	53.3	1.57	0.456
Extended family	0	0	2	3.3	(df=2)	
6.Family income :						
Below 5000	8	13.3	17	28.3	0.49	
5001-10000	13	21.7	20	33.3	(df=2)	0.781
10001-20000	1	1.7	1	1.7		
Above 20001	0	0	0	0		
7.Methodsof drainage system:	8	13.3	13	21.7	0.23	
Open	11	18.3	18	30	(df=2)	0.891
Closed	3	5	7	11.7		
Under drainage system						
8.Exposure to source of health information :						
Self learning	4	6.7	7	11.7		
Mass media	11	18.3	15	25	0.75	0.860
Friends	5	8.3	11	18.3	(df=3)	
Health personnel	2	3.3	5	8.3		
9.Health services availed from:						
PHC	4	6.7	8	13.3		
Sub-centre	10	16.7	15	25	1.96	0.580
Nursing home	5	8.3	13	21.7	(df=3)	
Hospital	3	5	2	3.3		

10.Type of water supply:						
Tap water	22	36.7	37	61.7	0.59	0.443
Well water	0	0	1	1.7	(df=1)	
Tank water	0	0	0	0		
11.place of defecation:						
Open field	5	8.3	13	21.7		
Public latrines	10	16.7	8	13.3	3.96	0.138
Home	7	11.7	17	28.3	(df=2)	
Soil pit	0	0	0	0		
12.Age of children:						
>1 year	2	3.3	5	8.3		
1-2 years	5	8.3	18	30	4.23	0.238
3-4 years	11	18.3	11	18.3	(df=3)	
4-5 years	3	5	4	6.7		

*-P<0.05 ,significant and **-P<0.01 &***-P<0.001 , Highly significant

The above Table No.9. shows that age of mothers (p- value 0.042) and educational status (p- value 0.042) of demographic variables only associated with the post-test results of effectiveness of self instructional module on prevention of worm infestation among mothers of under five children.

Discussion

CHAPTER V

DISCUSSION

The study was conducted to assess the effectiveness of self instructional module on prevention of worm infestation among mothers of under five children in Institute of Child Health and Research Centre at Madurai.

The purpose of this study to improve knowledge on prevention of worm infestation among mothers of under five children in Institute of Child Health and Research Centre at Madurai.

Children, who eat without washing their hands, transfer the harmful eggs, sticked to their nails, into their stomach where they become fully developed worms. These worms stick to the lining of the intestines and suck blood leading to anemia and other symptoms of worm infestation. They can grow to the extent of obstructing intestines causing acute pain and landing the patient in an emergency seeking condition. Tiny thread worms come out of the anus in the night to lay eggs around, causing itching.

In 2010 annual report at the global prevalence regarding types of worm infestation shows that 1.47 billion for ascariasis, 1.3 billion for trichurasis and 1.05 billion for hookworm infestation and more than 25% of world population infected with Helminthics. Prevalence rates of order of 50%- 75% have been registered in Asian countries. In south India Necator Americans and in North India Ankylostoma is more prevalent. More than 200 milllion children are infected in India. Sixty to eighty percent of the population of West Bengal, Andhra Pradesh, Uttar Pradesh and Orissa & Tamilnadu are infected with worms.

The review of literature stated the prevalence of hookworm infection and its association with anemia among patients visiting Fenan Medical Center, East Wollega Zone, Ethiopia. The overall prevalence of intestinal parasites was 64.9% Hookworm was the predominant (49.7%) intestinal parasite identified among the study participants. The density of hookworm egg ranged from 48 egg to 11,520 egg with mean and median values of 685 and 288 egg respectively. The observed result for hematocrit ranged from 12% to 50% with mean (SD) and median values of 34.6% (4.7) and 36% respectively. The prevalence of anemia is 65.5% among study participants. Among those subjects with hookworm, 83.9% were anemic.

Data were collected on the first day of admission in pediatric ward, the mothers of under-five children were approached and consent was obtained after fully explaining the procedure of the study and the rights of the clients. Based on the criteria for sample selection the subjects were selected using consecutive sampling technique. Pre test was done to evaluate the knowledge level on prevention of worm infestation using Structured knowledge Questionnaires. Self Instructional Module was given to samples and explained well. The post-test assessment was conducted using the same structured knowlege questionnaires on the seventh day of the study.

The analysis performed by basic statistical techniques such as mean, standard deviation, range and mean score percentage of described socio demographic variables will be computed and interpreted suitably. Paired “t” test compare pre test and post test knowledge score. Chi square test will be used to find out the association between the knowledge and Selected socio demographic variables of mothers of under five children.

DEMOGRAPHIC VARIABLES OF MOTHERS OF UNDER FIVE CHILDREN:

The age of mother 48.3% of were belongs to26-30 years of age, 35% were in 31-35 years, and remaining 16.7% of were in 20-25 years of age. Majority of the mothers were from the age group of 26-30 yrs.

Considering Religion, 65% of mothers were Hindu religion, 25% were Muslim and remaining 10% were from Christian. Majority of mothers are from Hindu religion (65%).

Regarding education 50 % of mothers educated upto middle school , 26.7 % educated upto secondary school , 21.7% educated upto primary education and remaining 1.6% were educated upto degree. Majority of the mothers were educated upto middle school (50%).

Based on the occupation 66.7% were as house wife , 20% were worked in company or business, 13.3% were worked in a private job. Majority of mothers were as house wife (66.7%).

With respect to family 56.7% of mothers were from nuclear family, 40% were from joint family and remaining 3.3% were from extended family. Majority of mothers were from nuclear family (56.7%) .

Regarding family income 55% of mothers were earned Rs. 5001-10000, 41.7% of mothers were earned below Rs. 5000, and remaining 3.3% were earned Rs. 10001 - 20000. Majority of mother were earned Rs. 5001-10000 (55%).

Considering methods of drainage system 48.3% of mothers were used closed system, 35% were used open system and remaining 16.7% were used under drainage system.. Majority of mothers were used closed system of drainage system (48.3%).

Based on the exposure to source of health information 43.3% were received through mass media, 26.7% were received through friends, 18.3% were received through self learning and remaining 11.7% were received through health personnel. Majority of mothers were received health information through mass media (43.3%).

Mothers of 41.7% were availed health services from sub-centre, 30% were availed from nursing home, 20% were availed from primary health centre, and remaining 8.3% were availed from hospital. Majority of mothers were availed health services from sub-centre (41.7%).

Considering type of water supply 98.3% were received water from tap, 1.7% were received water from well. Majority of mothers were received water from tap (98.3%).

Regarding place of defecation 40% were used home, 30% were used public latrines, 30% were used open field. Majority of mothers used home for defecation (40%).

Considering age of children, 38.9% of mothers have children between 1-2 years of age, 37.3% of mothers have children between 3-4 years of age, 11.9% of mothers have children between 0-1 years of age and remaining 11.9% of children between the age of 4-5 age group. Majority of mothers have children between the age of 1-2 years of age (38.9%).

First objective is to assess the level of knowledge on prevention of worm infestation among the mothers of under five children .

In pre-test, most of the mothers of under five children (66.7%) are in poor knowledge, 30% are average knowledge and only 3.3% are in very poor knowledge on prevention of worm infestation.

In post-test, 63.3% of mothers of under five children are in excellent knowledge and 36.7% are in good knowledge on prevention of worm infestation .

In pre-test, very poor, poor, and average scorer were gained good and excellent knowledge in post-test on prevention of worm infestation. It represented that self instructional module was significantly very effective.

These findings are in consistent with the studies conducted by **Mrs. Jeba Subitha.Y (2013)** on assess the effectiveness of structured teaching programme on knowledge regarding prevention of worm infestation among mothers of under five children**.** In pre-test, all of the samples were having not adequate level of knowledge 26(86.7%) regarding prevention of worm infestation. After administration of structured teaching programme, there was marked improvement in the knowledge of the sample with majority 28 (93.3%) gained adequate knowledge score 2 (6.66%) of the sample had moderate knowledge score regarding prevention of worm infestation.

Second objective is to evaluate the effectiveness of self instructional module on prevention of worm infestation among mothers of under five children.

Pre-test score of mothers of under five children regarding knowledge on prevention of worm infestation. Range is 4-11, mean score is 7.52, standard deviation is 1.76 and mean percentage is 38%.

Post-test score of mothers of under five children regarding knowledge on prevention of worm infestation. Range is 13-20, mean score is16.92, standard deviation is 1.42 and mean percentage is 85%.

The level of knowledge results on pre-test and post- test mean score was 7.52 and 16.92 respectively, SD score is 1.76 and 1.42 respectively. Mean difference between pre-test and post-test was 9.4. Paired 't' test value is 30.22. The calculated value (30.22) was much higher than the table value (2.340) at P< 0.001 level of significance. Hence, the researcher observed that there is a **highly significant** increase of knowledge on prevention of worm infestation among mothers of under five children in institute of child health and research centre at Madurai and also self instructional module was very much effective .

These findings are in consistent with the study conducted by **Mrs. Jeba Subitha.Y (2013)** regarding prevention of worm infestation among mothers of under five children. The results of the study was the overall mean and standard deviation of post-test knowledge score regarding prevention of worm infestation among mothers of under five children were 24.33 with a standard deviation of 3.166. The mean post-test knowledge score was 24.33 which are apparently higher the mean pre-test knowledge scores 9.73 and the mean difference was 14.6. The calculated paired test value ($t_{49}=24.73$, $p<0.05$) is greater than the table value (t tab=1.70) which represents significant gain knowledge through the structured teaching programme.

A Quasi experimental study was conducted on " knowledge regarding worm infestation" among 50 mothers of under five children residing in selected social welfare hostel at Bellary. Pre-test was conducted following with the post-test after 7 days of

given structured teaching programme. The result determined peak increase in the 'p' values with difference in Pre-test and post-test results, also revealed that structured teaching programme was effective in imparting the knowledge among school children.

Hence, **Hypothesis (H_1)** : **There is a significant difference between pre test and post test level of knowledge on prevention of worm infestation among mothers of under five children was accepted.**

Third objective is to determine the association between level of knowledge on prevention of worm infestation with selected socio demographic variables:.

Statistical association between the level of score and selected socio demographic variables were calculated by using chi square test. Here in this study the prevention of worm infestation only associated with age of mothers and educational staus in post test score.

Hence **hypothesis (H_2): There is a significant association between level of knowledge with selected socio demographic variables was accepted.**

Summary, Conclusion & Recommendations

CHAPTER – VI

SUMMARY, CONCLUSION, IMPLICATIONS AND RECOMMENDATIONS

This chapter deals with the summary of the study and conclusions drawn. It also clarifies the limitations of the study, the implications for different areas like nursing educations, administration, nursing practice, nursing research and recommendations.

SUMMARY

The study was conducted to assess the effectiveness of self instructional module on prevention of worm infestation among mothers of under five children in Pediatric ward in Institute of Child Health and Research Centre at Government Rajaji Hospital Madurai.

The objectives of the study were,

1. To assess the level of knowledge on prevention of worm infestation among mothers of under five children .
2. To evaluvate the effectiveness of self instructional module on prevention of worm infestation among mothers of under five children .
3. To determine the association between level of knowledge on prevention of worm infestation with their selected socio demographic variables**.**

The following hypotheses were tested at 0.001 level of significance,

- H1: There is a significant difference between pre test and post test knowledge level on prevention of worm infestation among mothers of under five children.

- H2: There is a significant association between level of knowledge with selected socio demographic variables.

The study assumptions were,

1. Under five childrens are prone to get worm infestation
2. Mothers of under five children have inadequate knowledge on prevention of worm infestation .

The conceptual framework for the study was based on Ludwig Von Bertalanffy's General system theory. A pre-experimental research design was used in this study. The independent variable was self instructional module on prevention of worm infestation. This study was conducted at the pediatric ward at Government Rajaji Hospital Madurai – 625020. The target population comprises of hospialised mothers of under-five children . The study subjects were selected using consecutive sampling and samples were sixty.

The data collection tools used were,

1. Demographic Data.
2. A structured knowledge questionnaires to assess the level of knowledge on prevention of worm infestation among mothers of under five children.

The reliability of structured knowledge questionnaire was found to be high (r= 0.7273, p=0.0001) and reliable with Test and re-test method.

Content validity was obtained from three experts specialized in child Health Nursing and two experts in pediatric department. Pilot study was conducted on 10 subjects to find out the feasibility of the study and it did not show any major flaw in the design of the study.

Data collection was carried out for six weeks. Based on the objectives and hypothesis, the data collected were analyzed by using descriptive and inferential statistics.

6.1 MAJOR FINDINGS OF THE STUDY

- Majority of the mothers (48.3%) were from the age group of 26-30 yrs.
- Majority of mothers (65%) from Hindu religion.
- Majority of the mothers (50%) were educated upto middle school.
- Majority of mothers were as house wife (66.7%).
- Majority of mothers were from nuclear family (56.7%).
- Majority of mother were earned between 5001-10000 (55%).
- Majority of mothers were used closed system of drainage system (48.3%).
- Majority of mothers were received health information through mass media (43.3%).
- Majority of mothers were availed health services from sub-centre (41.7%).
- Majority of mothers were received water from tap (98.3%).
- Majority of mothers used home for defecation (40%).
- Majority of mothers have children between the age of 1-2 years of age (38.9%).

- Pre-test score of mothers of under five children regarding knowledge on prevention of worm infestation. Range is 4-11, mean score is 7.52, standard deviation is 1.76 and mean percentage is 38%.
- Post-test score of mothers of under five children regarding knowledge on prevention of worm infestation. Range is 13-20, mean score is16.92, standard deviation is 1.42 and mean percentage is 85%.
- Overall results of pre-test and post- test mean score was 7.52 and 16.92 respectively, SD score is 1.76 and 1.42 respectively. Mean difference between pre-test and post-test was 9.4. Paired 't' test value is 30.22. The calculated value (30.22) was much higher than the table value (2.340) at 0.001 level of significance. So, the researcher observed that there is a **highly significant** increase of knowledge on prevention of worm infestation among mothers of under five children in institute of child health and research centre at Madurai and also self instructional module is very much effective.
- Demographic variable of methods of drainage system (p- value 0.04) only associated with the pre-test results of effectiveness of self instructional module on prevention of worm infestation among mothers of under five children. Rest of the socio demographic variables were not associated with the post-test results of effectiveness of self instructional module on prevention of worm infestation among mothers of under five children.
- Age of mothers (p- value 0.042) and educational status (p- value 0.042) of demographic variables only associated with the post-test results of effectiveness of self instructional module on prevention of worm infestation among mothers of

under five children. Rest of the socio demographic variables were not associated with the post-test results of effectiveness of self instructional module on prevention of worm infestation among mothers of under five children.

6.2 . CONCLUSION

In this study ,Teaching by self instructional module will helps the mothers of under five children to acquire the adequate knowledge on prevention of worm infestations . So, self instructional module was easy method of health education, cost effective, non-invasive, and highly feasible. The researcher concluded that it can be used as an effective intervention to improve the level of knowledge on prevention of worm infestation among mothers of under five children.

6.3 .IMPLICATIONS

The investigator had drawn implications from this study for various areas such nursing practice, nursing education, nursing administration and nursing research.

Implications for Nursing Practice

1. The field of pediatric nursing has great responsibility to protect the health of the under five children.
2. Nurses should be equipped with update knowledge on prevention of worm infestation to impart appropriate knowledge to various health settings.
3. Pediatric nurses need to take up the responsibility to create awareness among the mothers of under five children regarding worm infestation and its prevention.

4. Nurse should use wide variety of intervention to prevent worm infestation and it's important for practicing nurse to evaluate these interventions.
5. Nurses and health care providers play a vital role in motivating the mothers to maintain hygiene.
6. Nursing practice in the various health care settings should focus on prevention of worm infestation and the promotion of personal hygiene.

Implications for Nursing Education

1. The study emphasizes the need for developing good teaching skills among student nurses on worm infestation.
2. The Nurse educator should emphasize health education on worm infestation and its prevention as part of learning experience for the students.
3. Students should be encouraged to identify the signs and symptoms of worm infestation, to teach the mothers of under five children.
4. The nurse educator can provide an opportunity for students to actively participate in implementation of personal hygiene and safe handling of foods.
5. A well organized Continuing Nursing Education programme (seminars, workshops) may be conducted on prevention of worm infestation for all pediatric nursing personnel.

Implications for Nursing Administration

1. Nurse administration should guide and monitor the nurse on prevention of worm infestation and has to plan for in services education periodically.

2. Nurse as an administrator plays an important role in educating the professional and in policy making such as mass health education measures in the hospitals.
3. The findings shows that there is need for contained health education programmes which can be organized by nurse administrator on prevention of worm infestation at all health care delivery levels.

Implications for nursing research

1. The nurse researcher should motivate the clinical nurses to apply research findings and can bring out new innovative procedures to prevent the worm infestation among mothers of under five children.
2. Nursing research is the main source by which the nursing profession is growing.
3. The essence of research is to build a body of knowledge in nursing.
4. This study can be used as a baseline study for further studies.
5. The generalization of the study results can be made by replication of the study, the nurse researcher can inculcate practice by strong base research.

6.4 RECOMMENDATIONS

1. The study can be repeated with a large sample size .
2. study can be done in attitude and practice on prevention of worm infestation among mothers of under five children.

3 . A Comparative study between urban and rural knowledge, attitude and practice on worm infestation can be conducted.

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Appendices

APPENDIX - I

PERMISSION LETTER

FROM

Radhika .p

M.Sc Nursing I year,

College of Nursing,

Madurai Medical College,

Madurai.

TO

The director and head of the department

Institute of child health and research centre

Government rajaji hospital,

Madurai.

Respected madam,

Sub: college of nursing Madurai medical college ,Madurai –M.SC.,(N) I year child health nursing student –permission letter for conducting studyin institute ofchild health and research in government Rajaji hospital –requested- regarding.

As per the Indian Nursing Council and The Tamilnadu Dr.MGR Medical University curriculum requirement, I year M.SC(N) students are required to conduct a dissertation study. I have selected the study topic "A study to ***A STUDY TO ASSESS THE EFFECTIVENESS OF SELF INSTRUCTIONAL MODULE ON PREVENTION OF WORM INFESTATION AMONG MOTHERS UNDER FIVE CHILDREN IN INSTITUTE OF CHILD HEALTH AND RESEARCH IN GOVERNMENT RAJAJI HOSPITAL AT MADURAI*** "for the partial fulfillment of the course. I assure that I will not interfere with the routine activityofdepartment .

Kindly consider my request and permit me to conduct the study.

Thanking You,

Date : .01.2014

Yours faithfully,

Place : Madurai

P Radhika

(Radhika .p)

Forwarded for Consideration

6/1/14

Mrs. N. NAGAMATHIYAMMAL M.
Lecturer in Pediatric Nursing
College of Nursing
Madurai Medical College
Madurai 625 020.

7/2/14

The Sample Proposal is approved. To member Secretary please do the needful for

Chitra Ayyappan

6/1/14

DIRECTOR I/C
INSTITUTE OF CHILD HEALTH &
RESEARCH CENTRE
GOVT. RAJAJI HOSPITAL
MADURAI - 625 020

APPENDIX – II

ETHICAL COMMITTEE APPROVAL LETTER

Ref. No. 68/E4/2/2014, **Govt. Rajaji Hospital,**
Madurai.20. Dated:26.02.2014

Institutional Review Board / Independent Ethics Committee.
Capt. Dr.B. Santhakumar, M.D., (F.M.,) deanmdu@gmail.com
Dean, Madurai Medical College &
Govt Rajaji Hospital, Madurai 625020. **Convenor**

Sub: Establishment-Govt. Rajaji Hospital, Madurai-20-
Ethics committee-Meeting Minutes- for February 2014
Approved list - Regarding.

The Ethics Committee meeting of the Govt. Rajaji Hospital, Madurai was held on 07.02.2014, Friday at 10.00 am to 12.00.noon at the Anaesthesia Seminar Hall, Govt. Rajaji Hospital, Madurai. The following members of the committee have attended the meeting.

1.Dr.V. Nagarajan, M.D., D.M (Neuro) Ph: 0452-2629629 Cell.No 9843052029 nag9999@gmail.com	Professor of Neurology (Retired) D.No.72, Vakkil New Street, Simmakkal, Madurai -1	Chairman
2. Dr.Mohan Prasad , M.S M.Ch Cell.No.9843050822 (Oncology) drbkcmp@gmail.com	Professor & H.O.D of Surgical Oncology(Retired) D.No.32, West Avani Moola Street, Madurai -1	Member Secretary
3. Dr. Parameswari M.D (Pharmacology) Cell.No.9994026056 drparameswari@yahoo.com	Director of Pharmacology Madurai Medical College	Member
4. Dr.S. Vadivel Murugan, MD., (Gen.Medicine) Cell.No 9566543048 svadivelmurugan_2007@rediffmail.com	Professor& H.O.D of Medicine Madurai Medical College	Member
5. Dr.S. Meenakshi Sundaram, MS (Gen.Surgery) Cell.No 9842138031 drsundarms@gmail.com	Professor & H.O.D of Surgery Madurai Medical College	Member
6. Mrs. Mercy Immaculate Rubalatha, M.A., Med., Cell. No. 9367792650 lathadevadoss86@gmail.com	50/5, Corporation Officer's quarters, Gandhi Museum Road, Thamukam, Madurai-20	Member
7. Thiru..Pala. .Ramasamy , BA.,B.L., Cell.No 9842165127 palaramasamy2011@gmail.com	Advocate, D.No.72.Palam Station Road, Sellur, Madurai -2	Member
8. Thiru. P.K.M. Chelliah ,B.A Cell.No 9894349599 pkmandco@gmail.com	Businessman, 21 Jawahar Street, Gandhi Nagar, Madurai-20	Member

The following Projects was approved by the committee.

Name of P.G.	Course	Name of the Project	Remarks
P. Radhika	M.Sc., (Nursing) College of Nursing, Madurai Medical College, Madurai.	A study to assess the effectiveness of self instructional module on prevention of worm infestation among mother of under five children in Institute of Child Health and Research in Government Rajaji Hospital, Mdurai.	Approved

Please note that the investigator should adhere the following: She/He should get a detailed informed consent from the patients/participants and maintain it Confidentially.

1. She/He should carry out the work without detrimental to regular activities as well as without extra expenditure to the institution or to Government.

2. She/He should inform the institution Ethical Committee, in case of any change of study procedure, site and investigation or guide.

3. She/He should not deviate the area of the work for which applied for Ethical clearance.

She/He should inform the IEC immediately, in case of any adverse events or Serious adverse reactions.

4. She/He should abide to the rules and regulations of the institution.

5. She/He should complete the work within the specific period and if any

Extension of time is required He/She should apply for permission again and do the work.

6. She/He should submit the summary of the work to the Ethical Committee on Completion of the work.

7. She/He should not claim any funds from the institution while doing the work or on completion.

8. She/He should understand that the members of IEC have the right to monitor the work with prior intimation.

Member Secretary **Chairman**
Ethical Committee

26.2.14
DEAN/Convenor
Govt. Rajaji Hospital,
Madurai- 20.

24/2/14

To
The above Applicant
-thro. Head of the Department concerned

APPENDIX – III

From

RADHIKA.P,
II Year M.Sc(N),
College of Nursing,
Madurai Medical College,
Madurai-20.

To The Director,
The Department of Paediatrics
The Institute of child health and Research centre
Government of Rajaji Hospital,
Madurai.

Through,

The Principal,
College of Nursing,
Madurai Medical College,
Madurai-20.

Respected Sir/ Madam,

Sub: Requisition for opinion and suggestion of experts for content validity of

Research tool.

With due regards, I kindly bring to your notice that I am a postgraduate student of College of Nursing, Madurai Medical College, Madurai. I have selected the below mentioned topic for dissertation to be submitted to The Tamil Nadu Dr. M.G.R. Medical university, Chennai as a partial fulfillment of Master of Nursing degree.

"A study to asses the effectiveness self instructional module on prevention of worm infestation among mothers of under five children in institute of child health and research centre government Rajaji hospital madurai"

Kindly validate the tool and render your valuable expert opinion in this regard. I am thankful to you spending your valuable time for the validation of this tool. I will be grateful to you, if you do this favor to me as early as possible.

Thanking you,

Date:

Place: Madurai

Your's sincerely,

P. Radhika

Forwarded
S.P
25/7/14

Mrs. S. POONGUZHALI
M.Sc(N), M.A.,M.B.A., Ph.D.,
PRINCIPAL
College of Nursing
Madurai Medical College
Madurai-20.

CERTIFICATE OF VALIDATION

This is to certify that the content & Tool

SECTION A- Demographic Data

SECTION B – Questionarie to assess the knowledge on worm infestation

Prepared for data collection by Radhika.p,II Year M.Sc(N) student, college of nursing, Madurai Medical College,Madurai,who has undertaken the study field on thesis entitled **"A STUDY TO ASSESS THE EFFECTIVENESS OFSELF INSTRUCTIONAL MODULE ON PREVENTION OF WORM INFESTATION AMONG MOTHERS OF UNDER FIVE CHILDREN IN INSTITUTE OF CHILD HEALTH AND RESEARCH CENTRE GOVERNMENT RAJAJI HOSPITAL MADURAI"** has been validated by me.

SIGNATURE OF EXPERT

DIRECTOR
INSTITUTE OF CHILD HEALTH &
RESEARCH CENTRE
GOVT. RAJAJI HOSPITAL
MADURAI-625020

NAME :

DESIGNATION :

DATE :

CERTIFICATE OF VALIDATION

This is to certify that the content & Tool

SECTION A- Demographic Data

SECTION B – Questionarie to assess the knowledge on worm infestation

Prepared for data collection by Radhika.p,II Year M.Sc(N) student, college of nursing, Madurai Medical College,Madurai,who has undertaken the study field on thesis entitled **"A STUDY TO ASSESS THE EFFECTIVENESS OFSELF INSTRUCTIONAL MODULE ON PREVENTION OF WORM INFESTATION AMONG MOTHERS OF UNDER FIVE CHILDREN IN INSTITUTE OF CHILD HEALTH AND RESEARCH CENTRE GOVERNMENT RAJAJI HOSPITAL MADURAI"** has been validated by me.

SIGNATURE OF EXPERT

NAME :

DESIGNATION

Dr. N. KARUPPASAMY, M.S.,D.L.O.,M.Ch.
Asst. Prof. of Paediatric Surgery
Govt. Rajaji Hospital, Madurai-20.
Reg. No: 46434

DATE :

CERTIFICATE OF VALIDATION

This is to certify that the content & Tool

SECTION A- Demographic Data

SECTION B – Questionarie to assess the knowledge on worm infestation

Prepared for data collection by Radhika.p,II Year M.Sc(N) student, college of nursing, Madurai Medical College,Madurai,who has undertaken the study field on thesis entitled **"A STUDY TO ASSESS THE EFFECTIVENESS OFSELF INSTRUCTIONAL MODULE ON PREVENTION OF WORM INFESTATION AMONG MOTHERS OF UNDER FIVE CHILDREN IN INSTITUTE OF CHILD HEALTH AND RESEARCH CENTRE GOVERNMENT RAJAJI HOSPITAL MADURAI"** has been validated by me.

SIGNATURE OF EXPERT

NAME :

DESIGNATION :

DATE :

Principal
S.I. Jeyaraj Annapackiam College of Nursing
and Allied Sciences
Merry Dew Hills, Jonespuram
Pasumalai, Madurai-625 004

CERTIFICATE OF VALIDATION

This is to certify that the content & Tool

SECTION A- Demographic Data

SECTION B – Questionarie to assess the knowledge on worm infestation

Prepared for data collection by Radhika.p,II Year M.Sc(N) student, college of nursing, Madurai Medical College,Madurai,who has undertaken the study field on thesis entitled **"A STUDY TO ASSESS THE EFFECTIVENESS OFSELF INSTRUCTIONAL MODULE ON PREVENTION OF WORM INFESTATION AMONG MOTHERS OF UNDER FIVE CHILDREN IN INSTITUTE OF CHILD HEALTH AND RESEARCH CENTRE GOVERNMENT RAJAJI HOSPITAL MADURAI"** has been validated by me.

SIGNATURE OF EXPERT 30/7/14

NAME : Dr. A. Helen, M. Pandita

DESIGNATION : Principal
Madurai ACON.

DATE :

CERTIFICATE OF VALIDATION

This is to certify that the content & Tool

SECTION A- Demographic Data

SECTION B – Questionarie to assess the knowledge on worm infestation

Prepared for data collection by Radhika.p,II Year M.Sc(N) student, college of nursing, Madurai Medical College,Madurai,who has undertaken the study field on thesis entitled **"A STUDY TO ASSESS THE EFFECTIVENESS OFSELF INSTRUCTIONAL MODULE ON PREVENTION OF WORM INFESTATION AMONG MOTHERS OF UNDER FIVE CHILDREN IN INSTITUTE OF CHILD HEALTH AND RESEARCH CENTRE GOVERNMENT RAJAJI HOSPITAL MADURAI"** has been validated by me.

SIGNATURE OF EXPERT

NAME : Prof. Stella Sagayamary J.

DESIGNATION : Vice Principal
Matha college of nursing, Manamadurai

DATE : 08/08/2014

APPENDIX IV

ஆராய்ச்சி ஒப்புதல் கடிதம்

உங்கள் குழந்தை 5 வயதிற்கு உட்பட்ட குழந்தை ஆகும். ஆனால் அவர்களும், மிகுந்த நோய் தொற்றுதலுக்கு ஆளாவார்கள். இதில் குழந்தை பருவ புழு தொற்று என்பது குழந்தை பருவத்தில் மிகவும் பொதுவான நோயாக கருதப்படுகிறது. ஆகவே அதை தடுக்கும் முறைகளைப்பற்றி சுய விளக்க குறிப்பேடு மூலம் உங்களுக்கு கூற உள்ளேன்.

பெயர்: வயது: தேதி:

ஆராய்ச்சி சேர்க்கை எண்:

இந்த ஆராய்ச்சியின் விவரங்களும் அதன் நோக்கங்களும் எனக்கு தெளிவாக விளக்கப்பட்டது. எனக்கு விளக்கப்பட்ட விவரங்களை நான் புரிந்து கொண்டு நான் எனது சம்மதத்தை தெரிவிக்கிறேன்.

இந்த ஆராய்ச்சியில் பிறரின் நிபந்தனையின்றி என் சொந்த விருப்பத்தின் பேரில் தான் பங்கு பெறுகிறேன் மற்றும் நான் இந்த ஆராய்ச்சியிலிருந்து எந்நேரமும் விலகிக் கொள்ளலாம் என்பதையும், அதனால் எந்த பாதிப்பும் ஏற்படாது என்பதையும் புரிந்து கொண்டேன்.

நான் இந்த ஆராய்ச்சியின் விவரங்கள் அடங்கிய தகவல் தாளை பெற்றுக் கொண்டேன். நான் என்னுடைய சுய நினைவுடனும் மற்றும் முழுச்சுதந்திரத்துடனும் இந்த ஆராய்ச்சியில் என்னையும் என் குழந்தையையும் ஈடுபடுத்திக் கொள்ள சம்மதிக்கிறேன்.

கையொப்பம்

APPENDIX V

STRUCTURED KNOWLEDGE QUESTIONNAIRE

INSTRUCTIONS:

I, Mrs.Radhika.P,as part of my M.Sc.Nursing course curriculum, I am going to ask some information related to my study. So you requested to co-operate and kindly give the relevant information and the information collected from you will be kept confidential. It will be used for the research purpose only.

PART-A: SOCIODEMOGRAPHIC VARIABLE

1.Age of the mother

a.20-25 years ( )
b.26-30 years ( )
c.31-35 years ( )
d. Above 35 years ( )

2. Religion

a. Hindu ( )
b.Muslim ( )
c.Christian ( )

3.Educational status

a.Primary ( )
b.Middle school ( )
c.Secondary ( )
d.Degree ( )

4.Occupation

a.Housewife ( )
b.Private job ( )
c.Business/Company ( )
d.Government ( )

5.Type of family

a.Nuclear ( )
b.Joint ( )
c.Extended ( )

6.Family income

a.Below 5000 ( )
b.5001-10,000 ( )
c.10,001-20,000 ( )
d.20,001 above ( )

7.Methods of drainage system

a.Open ( )
b.Closed ( )
c. Under ground drainage ( )

8.Exposure to source of health information

a.Self learning ( )
b.Mass media ( )
c.friends ( )
d.Health personnel ( )

9.Health services availed from

a.P.H.C ( )
b.Sub centre ( )
c.Nursing home ( )
d.Hospital ( )

10.Type of water supply

a.Tape water ( )
b.Wel water ( )
c.Tank water ( )

11.Place of defection

a.open field ( )
b.public latrines ( )
c.private latrines ( )

12.Age of children

a.>1 year ( )
b.1-2 years ( )
c.3-4 years ( )
d.4-5 years ( )

PART-B: QUESTIONNAIRE TO ASSESS THE KNOWLEDGE ON WORM INFESTATION

1.Worm is a
a.bacteria ( )
b.parasite ( )
c.virus ( )

2.Worm infestation means
a.abdominal distention ( )
b.loss of appetite ( )
c.presence of worm in gut ( )

3.The Worm infestation is transmitted through
a.worm bite ( )
b.unhygienic handling of food ( )
c.infected mosquito bite ( )

4.The Worm infestation can be identified by
a.sputum examination ( )
b.blood examination ( )
c.stool examination ( )

5. Worm infestation can be treated with
a.Tab.albendazole and mebendzole ( )
b.Tab.diclofenac ( )
c.Tab.paracetamol ( )

TAPE WORM

6.The shape of the tape worm is
a.Leaf like ( )
b.Thread like ( )
c.Ribbon like ( )

7.Tapeworm can be caused by
a .Unclean foods ( )
b.Eating raw or undercooked foods ( )
c.Uncleaned dress ( )

8.The clinical manifestation of tapeworm infestation is
a.back ache ( )
b.itching around the anus ( )
c.abdominal pain ( )

9.Tape Worm infestation can be prevented
a.taking bath daily ( )
b.proper hand hygiene ( )
c.proper cooking of meat ( )

ROUND WORM

10.The shape of round worm is
a.Thead like ( )
b .Earth worm like ( )
c . Block in colour ( )

11.Round worm are commonly found in
a .School children ( )
b.Small children ( )
c. Adolescents ( )

12. Clinical manifestation of round worm is
a.Abdominal pain ( )
b.Swelling of leg ( )
c.Head ache ( )

HOOK WORM

13.The shape of the hook worm is
a.Round shape ( )
b .Oval shape ( )
c.S,Shape ( )

14.Hook worm larvae into the body through
a.Sweat glands or hair follicles ( )
b.orally ( )
c.Un barred foot ( )

15.Hookworm larvae after entering into the skin of the toddler gives rise to
a.Toe itch(ground itch) ( )
b.Iriitation ( )
c. Fever ( )

16.Hookworm infestation can be prevented by
a.Drinking boiled water ( )
b.Wearing chapels and shoes ( )
c.Keeping the food closed ( )

THREAD WORM

17. Shape of the thread worm
a.Thread like ( )
b.Barrel like ( )
c.silkworm like ( )

18.Threadworm infestation is caused by,
a. Eating non-vegetable diet ( )
b . Bare foot walking ( )
c. Contaminated food and clothing ( )

19.clinical manifestation of threadworm,
a. Itching around the anus during night time ( )
b. Weight loss ( )
c. Vomiting ( )

20. Controlling measures of threadworm infestation
a. practice of personal hygiene ( )
b. Balanced diet ( )
c. Bathing ( )

ITEM NO	SCORE KEY	SCORE
1.	B	1
2.	C	1
3.	A	1
4.	A	1
5.	C	1
6.	C	1
7.	A	1
8.	C	1
9.	C	1
10.	B	1
11.	A	1
12.	A	1
13.	C	1
14.	C	1
15.	A	1
16.	B	1
17.	A	1
18.	C	1
19.	A	1
20.	A	1
OVER ALL SCORE		**20**

இணைப்பு

பகுதி - அ

கீழ்க்கண்டவற்றில் பொருத்தமானவற்றை கண்டறிந்து (✓) டிக் மார்க் செய்யவும்.

1. தாயின் வயது

அ. 20 - 25 வருடம் ☐

ஆ. 26- 30 வருடம் ☐

இ. 31 - 35 வருடம் ☐

ஈ. 35க்கு மேல் ☐

2. மதம்

அ. இந்து ☐

ஆ. கிறிஸ்தவம் ☐

இ. முஸ்லீம் ☐

ஈ. பிற மதத்தவர் ☐

3. கல்வித்தகுதி

அ. ஆரம்பக்கல்வி ☐

ஆ. நடுநிலைக்கல்வி ☐

இ. மேல்நிலைக்கல்வி ☐

ஈ. பட்டப்படிப்பு ☐

4. தொழில்

அ. இல்லத்தரசி ☐

ஆ. தனியார் நிறுவனத்தில் வேலை ☐

இ. வியாபாரம் ☐

ஈ. அரசு வேலை ☐

5. குடும்ப வகை

அ. தனிக்குடும்பம் ☐

ஆ. கூட்டுக்குடும்பம் ☐

இ. நீட்டிக்கப்பட்ட குடும்பம் ☐

ஈ. பிரிந்த குடும்பம் ☐

6. குடும்ப மாத வருமானம்

அ. ரூ.5000க்கும் குறைவாக ☐

ஆ. ரூ.5001 - ரூ.10,000 ☐

இ. ரூ.10,001- ரூ.20,000 ☐

ஈ. ரூ.20,000க்கும் மேல் ☐

7. வடிகால் அமைப்பு முறைகள்

அ. திறந்த நிலை ☐

ஆ. மூடிய நிலை ☐

இ. பாதாளச்சாக்கடை இணைப்பு ☐

8. சுகாதார தகவல் முறை

அ. தானாக தெரிந்து கொள்ளுதல் ☐

ஆ. செய்தித்தாள் ☐

இ. நண்பர்கள் ☐

ஈ. சுகாதார அலுவலர்கள் ☐

9. சுகாதார சேவைகள் அணுகும் முறை

அ. ஆரம்ப சுகாதார நிலையம் ☐

ஆ. துணை ஆரம்ப சுகாதார நிலையம் ☐

இ. மருத்துவமனைகள் ☐

10. நீர் விநியோக வகை

அ. குழாய் நீர் ☐

ஆ. கிணற்று தண்ணீர் ☐

இ. தொட்டி தண்ணீர் ☐

ஈ. சுத்திகரிக்கப்பட்ட நீர் ☐

11. மலம் கழிக்கும் இடம்

அ. திறந்த இடத்தில் ☐

ஆ. பொதுக்கழிப்பிடத்தில் ☐

இ. வீட்டு கழிப்பிடம் ☐

ஈ. குப்பை குழி ☐

12. குழந்தையின் வயது

அ. 0-1வருடம் ☐

ஆ. 1-2 வருடம் ☐

இ. 3-4 வருடம் ☐

ஈ. 4-5 வருடம் ☐

பகுதி - ஆ

புழு தொற்று அறிவுத்திறன் பற்றிய மதிப்பீடு

1. புழு என்பது ஒரு

அ. பாக்டீரியா ☐

ஆ. ஒட்டுண்ணி ☐

இ. வைரஸ் ☐

2. புழு தொற்றின் விளைவுகள்

அ. வயிறு வீக்கம் ☐

ஆ. பசியின்மை ☐

இ. இரத்த சோகை ☐

3. புழு தொற்று பரவும் விதம்

அ. புழுகடித்தல் ☐

ஆ. உணவை சுகாதாரமற்ற முறையில் கையாளுதல் ☐

இ. பாதிக்கப்பட்ட கொசுகடி மூலம் ☐

ஈ. தன் சுத்தம் குறைவினால் ☐

4. புழு தொற்றினை எதன்மூலம் கண்டறிவது

அ. சளிபரிசோதனை மூலம் ☐

ஆ. இரத்த பரிசோதனை மூலம் ☐

இ. மலப்பரிசோதனை மூலம் ☐

5. புழுத்தொற்றின் சிகிச்சை முறை

அ. அல்பண்டசோல் ☐

ஆ. டைக்ளோபினாக் ☐

இ. பெரசிடமல் மாத்திரை ☐

நாடாப்புழு

6. நாடா புழு வடிவம்

அ. இலை போன்ற வடிவம் ☐

ஆ. நூல் போன்ற வடிவம் ☐

இ. ரிப்பன் போன்ற வடிவம் ☐

7. நாடா புழு தொற்று ஏற்படுவது

அ. அசுத்த உணவுகள் ☐

ஆ. சரியாக இறைச்சியை சமைக்காததால் ☐

இ. அசுத்தமான ஆடைகள் ☐

8. நாடா புழு தொற்றின் அறிகுறிகள்

அ. முதுகுவலி ☐

ஆ. ஆசனவாயை சுற்றிலும் அரிப்புகள் ☐

இ. வயிற்று வலி ☐

9. நாடா புழு தொற்றினை தடுக்கும் முறை

அ. தினசரி குளிப்பதன் மூலமாக ☐

ஆ. கைகளை நன்றாக கழுவுவதால் ☐

இ. இறைச்சியை நன்றாக வேக வைப்பதால் ☐

உருளைப்புழு

10. உருளைப்புழுவின் தோற்றம்

அ. நூல் போன்ற வடிவம் ☐

ஆ. இளஞ்சிவப்பு மற்றும் வெள்ளைநிறம் ☐

இ. கருப்புநிறம் ☐

11. உருளைப்புழு தொற்று காணப்படும் பருவத்தினர்

அ. பள்ளி குழந்தைகள் ☐

ஆ. சிறு குழந்தைகள் ☐

இ. இளம் பருவத்தினர் ☐

12. உருளைப்புழுவின் அறிகுறிகள்

அ. வயிற்று வலி ☐

ஆ. கால்வீக்கம் ☐

இ. தலைவலி ☐

கொக்கிப்புழு

13. கொக்கிப்புழுவின் வடிவம்

அ. வட்டவடிவில் ☐

ஆ. முட்டை வடிவம் ☐

இ. "S" வடிவம் ☐

14. கொக்கி புழு எதன்மூலம் உடலில் செல்லும்

அ. வியர்வை சுரப்பிகள் அல்லது மயிர்க்கால்கள் ☐

ஆ. வாய்வழியாக ☐

இ. வெறும் காலில் நடக்கும் போது ☐

15. கொக்கிப்புழுவின் அறிகுறிகள்

அ. கால் நமைச்சல் (தரையில் நமைச்சல்) ☐

ஆ. எரிச்சல் ☐

இ. காய்ச்சல் ☐

16. கொக்கி புழு தொற்று தடுக்கும் முறை

அ. சூடான தண்ணீர் ☐

ஆ. செருப்பு அணிந்து நடப்பதால் ☐

இ. உணவுப் பொருளை மூடி வைப்பதால் ☐

நூல்புழு

17. நூல் புழுவின் தோற்றம்

அ. நூல் போன்ற வடிவம் ☐

ஆ. உருளை போன்ற வடிவம் ☐

இ. பட்டுப்புழு போன்ற வடிவம் ☐

18. நூல் புழு தொற்று ஏற்படுவது

அ. இறைச்சி உணவுகளை அதிகமாக உண்பதால் ☐

ஆ. செருப்பு இல்லாமல் நடப்பது ☐

இ. கை கழுவாமல் உணவை சாப்பிடும்போது ☐

19. நூல் புழுவின் அறிகுறிகள்

அ. இரவில் ஆசன வாயை சுற்றிலும் அரிப்பு ஏற்படுவது ☐

ஆ. எடை குறைதல் ☐

இ. வாந்தி ☐

20. நூல் புழு பூச்சி கட்டுப்படுத்தும் நடவடிக்கைகளை

அ. சுகாதார முறையை கையாளுதல் ☐

ஆ. சீரான உணவு ☐

இ. தினசரி குளிப்பதால் ☐

கேள்வி எண்	பதில்கள்	மதிப்பு
1.	ஆ	1
2.	இ	1
3.	அ	1
4.	அ	1
5.	இ	1
6.	இ	1
7.	அ	1
8.	இ	1
9.	இ	1
10.	ஆ	1
11.	அ	1
12.	அ	1
13.	அ	1
14.	இ	1
15.	இ	1
16.	அ	1
17.	ஆ	1
18.	இ	1
19.	அ	1
20.	அ	1
மொத்த மதிப்பு		**20**

APPENDIX VI

CERTIFICATE OF ENGLISH EDITING

TO WHOM SO EVER IT MAY CONCERN

This is to certify that the dissertation, **"A study to assess the effectiveness of self instructional module on worm infestation among mothers of under five children in Institute of Child Health and Research Centre in Government Rajaji Hospital at Madurai"** done by Mrs.P.Radhika, M.Sc., Nursing II year student, College of Nursing, Madurai Medical College, Madurai-20 has been edited for English language appropriateness.

Name: M. MARIMUTHU

Designation: B.T. ASSISTANT

Institution: PANCHAYAT UNION MIDDLE SCHOOL
MAITTAN PATTI
KALLIGUDI (UNION)
THIRUMANGALAM (TK)
MADURAI (Dt)

Signature

M. MARIMUTHU, M.A., M.Phil., B.Ed.,
B.T. Assistant
P.U.M. School,
Maittan Patti, Kalligudi (Union)
Madurai (Dt)-625 701.

CERTIFICATE OF TAMIL EDITING

TO WHOM SO EVER IT MAY CONCERN

This is to certify that the dissertation, **"A study to assess the effectiveness of self instructional module on worm infestation among mothers of under five children in Institute of Child Health and Research Centre in Government Rajaji Hospital at Madurai"** done by Mrs.P.Radhika, M.Sc., Nursing II year student, College of Nursing, Madurai Medical College, Madurai-20 has been edited for Tamil language appropriateness.

Name: Dr. K.R. KRISHNA RAM,

Designation: Assitant professor

Institution: Sourashtra college.

K.R. krishnaram

Signature

Dr. K.R. KRISHNARAM, M.A., M.Phil., Ph.D.,
Assistant Professor, Department of Tamil,
Sourashtra College,
Madurai-625004.

APPENDIX VII

குடற்புழுக்களை தவிர்ப்பது பற்றிய பாடக்குறிப்பு

வழங்குபவர்

பதிவு எண்: **301317055**

இரண்டாமாண்டு எம்.எஸ்.ஸி (செவி) முதுகலை மாணவி,

செவிலியர் கல்லூரி,

மதுரை மருத்துவக்கல்லூரி,

மதுரை.

மாணவ ஆசிரியரின் பெயர்	: பொ. ராதிகா,
பாடப்பிரிவின் பெயர்	: குழந்தைகள் நல செவிலியம்
ஆண்டு	: இரண்டாமாண்டு முதுகலை செவிலிய பட்டப்படிப்பு மாணவி
பாடத்தின் பெயர்	: குடற்புழுக்களை தவிர்ப்பது
பாடம் கவனிப்பவர்கள்	: ஐந்து வயதிற்குட்பட்ட குழந்தைகளின் தாய்மார்கள்
பங்குபெறுவோர்/ பயனாளிகளின் எண்ணிக்கை	: 60
இடம்	: அரசு இராஜாஜி மமருத்துவமனை வளாகம்
முந்தைய கல்வியறிவு	: தாய்மார்களுக்கு அடிப்படை அறிவு இருத்தல். ஆனால் குடற்புழுக்களைத் தவிர்ப்பது பற்றி தெரியாதிருத்தல்.
கல்வி போதிக்கும் முறை	: பாடம் நடத்துதலும் கலந்துரையாடுதலும்
கல்வி போதிக்கும் மொழி	: தமிழ்
கல்வி போதிக்கும் நேரம்	: 30 நிமிடம்
கல்வி போதிக்க உபயோகிக்கும் ஒலி மற்றும் ஒளி உபகரணங்கள்	: பாட விளக்கக் கையேடு

பொது நோக்கம்:

ஐந்து வயதிற்குட்பட்ட குழந்தைகளின் தாய்மார்கள் இந்த கல்வி போதித்தலுக்குப் பிறகு குடற்புழுக்களைப் பற்றி நிறைய கல்வியறிவு பெற்றிருக்க வேண்டும்.

குறிப்பிட்ட நோக்கம்:

இந்த கல்வி போதித்தலுக்குப் பிறகு ஐந்து வயதிற்குட்பட்ட குழந்தைகளின் தாய்மார்கள் போதிய அறிவும் திறமையும் குடற்புழுக்களை தவிர்ப்பது பற்றியும் அறிவு பெற்றிருக்க வேண்டும்.

பாடம் நடத்திய பிறகு தாய்மார்கள்,

1. குடற்புழுத் தொற்று பற்றிய அர்த்தத்தை புரிந்திருத்தல்
2. குடற்புழுத் தொற்றின் வகைகள் பற்றி வகைப்படுத்தல்
3. குடற்புழுத் தொற்று வருவதற்கான காரணங்களை குறிப்பிடல்
4. குடற்புழுத் தொற்று பரவும் விதத்தை விரிவாக எடுத்துரைத்தல்
5. குடற்புழுத் தொற்றின் அறிகுறிகளை உணருதல்
6. குடற்புழுத் தொற்று வைத்தியமுறைகள் பற்றி விளக்கமாக அறிதல்.
7. குடற்புழுத் தொற்று தவிர்க்கக்கூடிய முறைகள் பற்றி விளக்குதல்.
8. குடற்புழுத்தொற்று பற்றி விரிவாக விளக்குதல்.

வ. எண்.	நோக்கம்	நேரம்	பாடக்குறிப்பு	ஆசிரியரின் செயல்பாடு	பங்குபெறுவோரின் செயல்பாடு
1.	குடற்புழுத் தொற்று பற்றிய அர்த்தத்தை புரிந்திருத்தல்	1 நிமிடம்	குடற்புழு என்பது உலக அளவில் குழந்தைகளுக்கு ஏறபடக்கூடிய நோய்த்தொற்றில் மிகவும் முக்கியமானவற்றில் ஒன்று. ஏறத்தாழ ஒரு குழந்தை விட்டு அடுத்த குழந்தை இக்குறையினால் அவதிப்பட்டு வருகிறது. ஆனால் குடற்புழுத் தொற்று என்பது மழை காலத்தில் உண்டாகக்கூடிய ஒன்று மற்றும் அடிப்படையாக தண்ணீர் மூலமாக பரவக்கூடிய ஒன்று.-டாகடர் யஷ்வந்த் ராவ், லாலா லஜ்பத் மருத்துவமனை.	பாடக் கையேட்டைக் கொடுத்து பாடம் நடத்துதலும் கலந்துரையாடுதலும்	பாடம் நடத்துவதை கவனித்தலும் கேள்விக்கு பதில் அளித்தலும்
2.	குடற்புழுத் தொற்றின் வகைகள் பற்றி வகைப்படுத்தல்	1 நிமிடம்	நான்கு வகையான ஒட்டுண்ணிப் புழுக்கள் உள்ளன. வட்டப்புழு, நாடாப்புழு, கொக்கிப்புழு, டீனியாப்புழு. மேற்கண்ட புழுக்கள் குடற்புழு தொற்று உருவாகக் காரணமாகின்றன. மழைக்காலத்தின்போது வட்டப்புழு தொற்று அசுத்தமான உணவு மற்றும் நீர் மூலமாக குழந்தைகளுக்கு ஏற்படுகிறது. புழுக்கள் பழுப்பு நிற வெள்ளை அல்லது இளஞ்சிவப்புடன் கூடிய வெள்ளை நிறத்தில் இருக்கும்.	பாடக் கையேட்டைக் கொடுத்து பாடம் நடத்துதலும் கலந்துரையாடுதலும்	பாடம் நடத்துவதை கவனித்தலும் கேள்விக்கு பதில் அளித்தலும்
3.	குடற்புழுத் தொற்று வருவதற்கான காரணங்களை குறிப்பிடல்	3 நிமிடம்	**பொதுவான காரணங்கள்:** -அசுத்தமான உணவு வகைகள். -சரிவர சமைக்காத உணவு வகைகள். -நன்றாக சமைத்தாலும் அசுத்தமான பாத்திரங்கள் மற்றும் கைகள் மூலமாக. -வேகவைக்காத உணவு வகைகள். -காலில் உள்ள தோலை ஊடுருவி நுழைதல்.	பாடக் கையேட்டைக் கொடுத்து பாடம் நடத்துதலும் கலந்துரையாடுதலும்	பாடம் நடத்துவதை கவனித்தலும் கேள்விக்கு பதில் அளித்தலும்

வ. எண்.	நோக்கம்	நேரம்	பாடக்குறிப்பு	ஆசிரியரின் செயல்பாடு	பங்குபெறுவோரின் செயல்பாடு
4.	குடற்புழுத் தொற்று பரவும் விதத்தை விரிவாக எடுத்துரைத்தல்	2 நிமிடம்	**பரவும் விதம்:** குடற்புழுக்கள் பல வழிகளில் குழந்தைகளை தாக்குகிறது. சில புழுக்கள் நீண்ட நாட்களுக்கு தரையிலேயே வாழக் கூடியது அல்லது மண்ணில் கிடந்த பொருள்களை உண்ணுவதாலும் உடலுக்குள் நுழைகின்றன. மற்ற ஒட்டுண்ணிகள் விலங்குகளின் உடலில் வசிக்கின்றன. (பன்றி மற்றும் மாடுகள்). மக்களுக்கு சரிவர சமைக்காத மாமிச உணவு வகைகள் மூலமாகவும், சரிவர பதப்படுத்தப்படாத பாலின் மூலமாகவும் தொற்றும். சில குடற்புழுக்களின் முட்டைகள், குடற்புழுத்தொற்று ஏற்பட்ட ஒருவரின் மலம் மூலமாக பரவும். இந்த மலத்தினை ஏதோ ஒரு காரணத்தினால் தொடும்போது அவருக்கு தொற்று பரவும். அந்த நபர் மலத்தை கையால் தொட்டு தன் வாயைத் தொடும்போது எளிதாக பரவும். மலம் கலந்த உணவு வகைகள் அல்லது நீரைப் பயன்படுத்தும்போது பரவும். சில ஒட்டுண்ணிகள் அசுத்தமான தண்ணீரில் குளிப்பதன் மூலமாகப் பரவும். குடற்புழுத்தொற்று தாக்குதல் என்பது அடிக்கடி ஏற்படும். இதனால் நிறைய மக்கள் பாதிக்கப்படுவார்கள். அசுத்தமான தண்ணீர் மற்றும் உணவு வகைகள் பயன்படுத்தும்போதுதான் தாக்குதல் என்பது ஏற்படுகிறது.	பாடக் கையேட்டைக் கொடுத்து பாடம் நடத்துதலும் கலந்துரையாடுதலும்	பாடம் நடத்துவதை கவனித்தலும் கேள்விக்கு பதில் அளித்தலும்

வ. எண்.	நோக்கம்	நேரம்	பாடக்குறிப்பு	ஆசிரியரின் செயல்பாடு	பங்குபெறுவோரின் செயல்பாடு
5.	குடற்புழுத் தொற்றின் அறிகுறிகளை உணருதல்	2 நிமிடம்	**அறிகுறிகள்:** வயிற்று வலி, வயிற்றுப்போக்கு, குடற்புழுத்தொற்று ஏற்பட்ட 1 அல்லது 2 வாரங்களுக்குப் பின் பாதிக்கு மேற்பட்ட நபர்கள் உடல் எடையை இழக்கிறார்கள். இத்தொற்று மற்ற நோயினால் அவதிப்படுபவர்களுக்கு 2 அல்லது 6 வாரங்களுக்கு மேலும் நீடிக்கிறது. உடல் தளர்ச்சி, உடல் முழுவதும் வலி, வாந்தி, வாந்தி எடுப்பது போன்ற உணர்வு, உடல் எடை குறைதல், முறையற்ற குடல் அசைவு, வயிற்றுவலி மற்றும் வயிற்றுப்போக்கு மற்றும் வயிறு வீக்கம். **கொக்கிப்புழு தொற்றுவது** - அரிப்புடன் கூடிய பாதத்தில் தடிப்பு. **தட்டைப்புழு** – ஆசனவாயைச் சுற்றிலும் அரிப்பு.	பாடக் கையேட்டைக் கொடுத்து பாடம் நடத்துதலும் கலந்துரையாடுதலும்	பாடம் நடத்துவதை கவனித்தலும் கேள்விக்கு பதில் அளித்தலும்
6.	குடற்புழுத் தொற்று வைத்தியமுறைகள் பற்றி விளக்கமாக அறிதல்	2 நிமிடம்	**வைத்திய முறைகள்:** <u>குடற்புழுத்தொற்று நீக்கும் மருந்துகள் மற்றும் கிருமிகளை அழிக்கும் மருந்துகள்.</u> நோயாளிகள் வீட்டிலேயே இருந்து கொண்டு வைத்தியம் செய்யலாம். குழந்தைகள் கவனத்துடன் வைத்தியம் செய்ய வேண்டும். ஏனெனில் அவர்கள் மூலமாக தொற்று அடுத்தவருக்கு பரவக்கூடும். அல்பெண்டஜோல் மற்றும் மெபண்டஜோல் மாத்திரைகளும், மருந்துகளும் பயனளிப்பதாக உள்ளது.	பாடக் கையேட்டைக் கொடுத்து பாடம் நடத்துதலும் கலந்துரையாடுதலும்	பாடம் நடத்துவதை கவனித்தலும் கேள்விக்கு பதில் அளித்தலும்

வ. எண்.	நோக்கம்	நேரம்	பாடக்குறிப்பு	ஆசிரியரின் செயல்பாடு	பங்குபெறுவோரின் செயல்பாடு
7.	குடற்புழுத் தொற்று தவிர்க்கக்கூடிய முறைகள் பற்றி விளக்குதல்	2 நிமிடம்	**தவிர்ககும் முறைகள்:** நன்றாக உணவுப்பொருட்களை சமைக்க வேண்டும். அசுத்தமான இடங்கள் மற்றும் சுற்றுப்புறத்தை தவிர்க்கவும். காய்கறிகள் மற்றும் பழங்களை நன்றாகக் கழுவ வேண்டும். பழத்தை உறித்துப் பார்த்து விட்டு சாப்பிட வேண்டும். வீட்டில் சமைக்காத பொருட்களைச் சாப்பிடுவதைத தவிர்க்கவும். கைகளை சுத்தமாக கழிவறைக்கு சென்று வந்த பிறகும், சாப்பிடுவதற்கு முன்பும், சமையல் செய்வதற்கு முன்பும் நன்றாக சோப்பு பயன்படுத்தி கழுவவேண்டும். வெளியில் செல்கையில் செருப்பு அணிய வேண்டும். மண்ணில் விளையாடிய பிறகு கைகளை நன்றாக கழுவியபிறகே விரல்களை வாயருகே கொண்டு செல்ல வேண்டும். மேலே குறிப்பிட்ட அறிகுறிகள் ஏதேனும் இருந்தால் மலம் பரிசோதனை செய்ய வேண்டும். மற்றும் மருத்துவரின் ஆலோசனை பெறவேண்டும்.	பாடக் கையேட்டைக் கொடுத்து பாடம் நடத்துதலும் கலந்துரையாடுதலும்	பாடம் நடத்துவதை கவனித்தலும் கேள்விக்கு பதில் அளித்தலும்
8.	குடற்புழுத்தொற்று பற்றி விரிவாக விளக்குதல்	10 நிமிடம்	**நாடாப்புழு:** நாடாப்புழுத் தொற்று என்பது உணவு மண்டலத்தில் ஏற்படக்கூடிய தொற்று. இவை வயது வந்த ஒட்டுண்ணித் தட்டைப்புழுக்கள் முலமாக ஏற்படும். வயது வந்த நாடாப்புழுக்கள் 50 அடி வரை கூட நீளமாக இருக்கும். மற்றும் 20 வருடம் வரை	பாடக் கையேட்டைக் கொடுத்து பாடம் நடத்துதலும் கலந்துரையாடுதலும்	பாடம் நடத்துவதை கவனித்தலும் கேள்விக்கு பதில் அளித்தலும்

வ. எண்.	நோக்கம்	நேரம்	பாடக்குறிப்பு	ஆசிரியரின் செயல்பாடு	பங்குபெறுவோரின் செயல்பாடு
			வாழக்கூடியது. சில புழுக்கள் குடலின் சுவர்களின்மீது ஒட்டிக்கொண்டு நோய்த்தொற்று அல்லது காயத்தை உண்டுபண்ணுகிறது. சில புழுக்கள் மலத்தின்மூலமாக உடலை விட்டு வெளியேறுகிறது. சில குறைந்த வளர்ச்சியுள்ள நாடாப்புழுக்கள் தன்னுடைய முட்டை முதல் வயது வருவது வரையிலான வளர்ச்சியை ஒரு இடத்திலேயே ஏற்படுத்திக்கொள்கிறது. இவ்வகையான புழுக்களே இத்தொற்றிற்கு உலகளவில் முக்கிய காரணமாக உள்ளது. மற்றும் மனிதருக்குள் பரவக்கூடிய வகையும் கூட. மீண்டும் மீண்டும் தொற்று ஏற்படுத்தக்கூடிய வகையும் கூட. நம்முடைய அசுத்தமான உடல் பராமரிப்பு முறைகள் மூலமாக மறுபடியும் நம்மைத் தாக்குகிறது. **காரணங்கள்:** சரியாக சமைக்காத கறிவகைகள் அல்லது மீன் தசையில் லார்வாப்புழு இருக்கும். உள்ளே லார்வா நுழைந்தவுடன் தன்னுடைய வளர்ச்சியை ஆரம்பித்து வயதிற்கு வரும். **பரவும் விதம்:** அசுத்தமான தண்ணீர் மற்றும் உணவு வகைகள். மனித மற்றும் விலங்குகளின் மலம் கலந்த மண்	பாடக் கையேட்டைக் கொடுத்து பாடம் நடத்துதலும் கலந்துரையாடுதலும்	பாடம் நடத்துவதை கவனித்தலும் கேள்விக்கு பதில் அளித்தலும்

வ. எண்.	நோக்கம்	நேரம்	பாடக்குறிப்பு	ஆசிரியரின் செயல்பாடு	பங்குபெறுவோரின் செயல்பாடு
			வகைகள் முலமாக. சரிவர வேக வைக்காத உணவு வகைகள். **அறிகுறிகள்:** பொதுவாக குடலில் எந்த அறிகுறியும் தென்படாது. சில பேருக்கு மேல் வயிறு உபாதை, வயிற்றுப்போக்கு, பசியின்மை. சில நேரங்களில் குடல் அடைப்பு ஏற்படலாம். டீனியாபுழுக்கள் மூளைக்கு நகர்ந்து சென்று அதிகமான தலைவலி, வலிப்பு, மற்றும் நரம்பு சம்பந்தமான உபாதைகளை ஏற்புடுத்துகிறது. **வைத்தியமுறை:** வாய்வழி மாத்திரைகள் ஒரு தடவை எடுப்பதன்மூலம் குடற்புழுத்தொற்றிலிருந்து குணம் பெற முடியும். **வட்டப்புழுக்கள்:** நீளமானதும் வட்ட உடலமைப்பும் கொண்டது கண்ணால் பார்க்கக்கூடிய அளவிலிருந்து 100 இஞ்ச் அளவிற்கு நீளமானதுமாக இப்புழுக்கள் இருக்கும். 1மி.மீ முதல் 1 மீட்டர் அளவுக்கு நீளமாக இருக்கும். தொற்று குளிர் காலங்களை விட சூடான காலங்களிலேயே இருக்கும். மனிதனில் பொதுவான தொற்று, உலகளவில்	பாடக் கையேட்டைக் கொடுத்து பாடம் நடத்துதலும் கலந்துரையாடுதலும்	பாடம் நடத்துவதை கவனித்தலும் கேள்விக்கு பதில் அளித்தலும்

வ. எண்.	நோக்கம்	நேரம்	பாடக்குறிப்பு	ஆசிரியரின் செயல்பாடு	பங்குபெறுவோரின் செயல்பாடு
			இப்புழுக்கள் மூலமாகவே ஏற்படுகிறது. இதன் தாக்குதல் எளிதானது முதல் உயிருக்கு ஆபத்தை விளைவிக்கும் வரையில் கூட இருக்கும். பள்ளிகளுக்குச் செல்லும் குழந்தைகள் அதிகளவில் பாதிப்புக்கு உள்ளாகிறார்கள். **வகைகள், காரணங்கள் மற்றும் பரவும் விதம்:** குச்சிப்புழுக்கள்,அஸ்கேரியாஸிஸ், கொக்கிப்புழுக்கள். மாறுபட்ட அளவு, பரவும் விதம் மற்றும் வகிக்கும் இடத்தையும் கொண்டுள்ளன. ஆரோக்கியமான மக்களுக்கு இவற்றினால் மிக ஆபத்தான விளைவுகள் ஏற்படாவிட்டாலும் தேவையற்ற உபாதைகளையும், சில நேரங்களில் ஆபத்தான விளைவுகளையும் ஏற்படுத்துகின்றன. **குச்சிப்புழு** – முட்டைகள் மனிதனில் பெருங்குடல் மற்றும் மலக்குடலில் காணப்படும். இவைகள் நோய்த்தொற்று ஏற்பட்டவர்கள் ஆசனவாய் பகுதியை அரிப்பதனால் மற்றும் அந்த கையோடு உணவு வகைகள் மற்றும் பொருட்களைத் தொடும்போது பரவும். **அஸ்கேரியாஸிஸ்** - மலத்தின் மூலமாக பரவும். சுற்றுப்புறத்தூய்மை குறைவான இடங்களில் பொதுவாக இப்புழுக்கள் இருக்கும். மனிதன் நோய்த்தொற்று ஏற்பட்ட நாய் அல்லது பூனையின் மலத்தைத் தொட்டு விட்டு, அந்தக் கையைக் கொண்டு சாப்பிடும் போது அல்லது வாயைத் தொடும்போது பரவும். மற்ற புழுக்கள்	பாடக் கையேட்டைக் கொடுத்து பாடம் நடத்துதலும் கலந்துரையாடுதலும்	பாடம் நடத்துவதை கவனித்தலும் கேள்விக்கு பதில் அளித்தலும்

வ. எண்.	நோக்கம்	நேரம்	பாடக்குறிப்பு	ஆசிரியரின் செயல்பாடு	பங்குபெறுவோரின் செயல்பாடு
			மலம் கலந்த மண்ணின் மூலமாக அடுத்தவர்களுக்குப் பரவும். அசுத்தமான மண்ணின் மீது வெறுங்கால்களில் நடக்கும்போது பாதத்தில் உள்ள தோலின் மூலம் ஊடுருவி நேரிடையாக மனிதனின் உணவு மண்டலத்தை அடையும். **அறிகுறிகள்:** -எந்த அறிகுறியும் இருக்காது. -அறிகுறி விதவிதமாக புழுக்களின் வகைகளுக்கு ஏற்றவாறு இருக்கும். -**அஸ்கேரியாஸிஸ்-** குறைந்த வயிற்று வலியிலிருந்து அதிகளவிலான வயிற்றுவலி, நிலைகொள்ளாமை, வாந்தி, புழுக்கள் எண்ணிககையைப் பொறுத்து அறிகுறியின் தீவிரம் இருக்கும். -**கொக்கிப்புழு** - வயிற்றுப்போக்கு, வலி, வாந்தி எடுப்பது போன்ற உணர்வு, சுருட்டிப்பிடித்து வலித்தல், அரிப்புடன் கூடிய தடிப்பு (புழு நுழைந்த இடத்தில்). சாதாரண கொக்கிப்புழு தொற்றினால் அறிகுறிகள் தென்படாது. தீவிரமாகும் போது வயிற்றுவலி, இரத்தம் தோய்ந்த மலம், உடல் எடை குறைதல், வயிற்றுப்போக்கு மற்றும் பசிக்குறைவு.	பாடக் கையேட்டைக் கொடுத்து பாடம் நடத்துதலும் கலந்துரையாடுதலும்	பாடம் நடத்துவதை கவனித்தலும் கேள்விக்கு பதில் அளித்தலும்

வ. எண்.	நோக்கம்	நேரம்	பாடக்குறிப்பு	ஆசிரியரின் செயல்பாடு	பங்குபெறுவோரின் செயல்பாடு
			தவிர்க்கும் விதம்: வட்டப்புழு – சுத்தமாக இருப்பதன் மூலமாக. குழந்தைகள் கழிவறைக்குச் சென்று வந்த பிறகும், பொம்மையை பகிர்ந்து முடித்த பிறகும் நன்றாக சோப்பு போட்டு கழுவுவதன் மூலமும். செருப்புகளை அணிந்து நடப்பதன் மூலம் கொக்கிப்புழுத் தொற்றைத் தவிர்க்கலாம். வைத்தியம் செய்வதைவிட நோய்த்தொற்று தவிர்ப்பது என்பதே தீர்வாகும். **கொக்கிப்புழு:** ஓட்டுண்ணி குடலில் வசிக்கும் இடம் - பொதுவாக பாலூட்டிகள் நாய், பூனை மற்றும் மனிதன். முன்புறத்தில் கொக்கு போன்ற வளைவு உள்ளதால் கொக்கிப்புழு என்று பெயர் வழங்கப்படுகிறது. இவற்றிற்கு நன்கு உருவான வாயமைப்பும் மற்றும் இரண்டு ஜோடி பற்களும் உள்ளன. ஆண் புழுக்கள் குறைந்தது 1 செ.மீ வரை இருக்கும். பெண் புழுக்கள் நீளமாகவும், தடித்தும் இருக்கும். குடற்புழுக்கள் குழந்தை மற்றும் கர்ப்பிணித்தாய்மார்கள் நோயினால் அவதிப்படும் தன்மைக்கு முக்கிய காரணமாக வளரக்கூடிய நாடுகளில் உள்ளன. இத்தொற்று ஏற்பட்டுள்ள குழந்தைகள் அறிவுக்குறைவு மற்றும்	பாடக் கையேட்டைக் கொடுத்து பாடம் நடத்துதலும் கலந்துரையாடுதலும்	பாடம் நடத்துவதை கவனித்தலும் கேள்விக்கு பதில் அளித்தலும்

வ. எண்.	நோக்கம்	நேரம்	பாடக்குறிப்பு	ஆசிரியரின் செயல்பாடு	பங்குபெறுவோரின் செயல்பாடு
			வளர்ச்சிக்குறைவு, கர்ப்பத்திலேயே வளர்ச்சி குறைதல், குறைமாதப்பிரசவம் மற்றும் எடை குறைவான குழந்தைகள் பிறக்க காரணமாக உள்ளன. நோய்த்தொற்று ஏற்பட்டுள்ள தாய்மார்கள் வளர்ந்த நாடுகளில் இப்புழுத்தொற்றினால் அவதியுறுவது மிகவும் குறைவு. ஆனால் அதிகளவு தொற்று ஏற்பட்டவருக்கு இரத்தசோகை குறிப்பிடும்படி ஏற்படுகிறது. **காரணங்கள்:** இப்புழுக்கள் மனிதனின் தோல் மூலமாக உடலிற்குள் நுழைகிறது. தொற்று முதலில் சிறிய தடிப்புடன் தோன்றும். குறிப்பாக பாதத்திற்கு ஒன்று (வெறுங்கால்களுடன் நடக்கும்போது) என தடிப்பு தோன்றும். **பரவும் விதம்:** இப்புழுக்கள் (புழு முட்டைகளை விழுங்குவதைவிட) மண் தொற்றின் மூலமாகவே பரவுகிறது. குறைந்த வளர்ச்சியடைந்த புழுக்கள் பாதத்திலுள்ள தோலைத் துளையிட்டு நுரையீரலை நோக்கி பயணிக்கின்றன. அங்கிருந்து தொண்டைக்கு செல்லும்போது அவை விழுங்கப்படுகின்றன. இப்புழுக்கள் குடற் சுவரின் மீது ஒட்டிக்கொண்டு முதிர்ச்சியடைகின்றன. மற்றும் இரத்தத்தை குடல் சுவற்றின் மீதிருந்து எடுத்துக் கொள்கின்றன.	பாடக் கையேட்டைக் கொடுத்து பாடம் நடத்துதலும் கலந்துரையாடுதலும்	பாடம் நடத்துவதை கவனித்தலும் கேள்விக்கு பதில் அளித்தலும்

வ. எண்.	நோக்கம்	நேரம்	பாடக்குறிப்பு	ஆசிரியரின் செயல்பாடு	பங்குபெறுவோரின் செயல்பாடு
			அறிகுறிகள்: அதிக தொற்றினால் எடைக்குறைவு, புரதக்குறைவு மற்றும் இரும்புச்சத்து குறைந்த இரத்தசோகையை உருவாக்குகின்றன. தோலின் மூலமாக உள்ளே நுழையும் லார்வாவினால் தொடர்ச்சியான அரிப்பு (பாதத்தில் அல்லது கீழ்க்காலில்) காயங்களை உருவாக்கும். சில நேரங்களில் ஒருவாரம் மற்றும் அதற்கு மேலும் இருக்கக்கூடிய பொக்களங்களை உருவாக்குகிறது. இருமல், நெஞ்சுவலி, மூச்சிறைத்தல், காய்ச்சல் போன்ற அறிகுறிகள் அதிகமான லார்வாத் தாக்குதலினால் ஏற்படுகிறது. மேல் வயிற்று வலி, செரிக்காமலிருத்தல், வாந்தி எடுப்பது போன்ற உணர்வு, வாந்தி, மலச்சிக்கல், வயிற்றுப்போக்கு, போன்ற அறிகுறிகள் நோயின் முதலிலோ அல்லது பின்போ ஏற்படலாம். **வைத்தியமுறை:** 72% அல்பென்டஜோல், 15% மெபன்டஜோல். அல்பென்டஜோல், மெபன்டஜோலைக் காட்டிலும் பலனளிக்கக்கூடியது. உடலில் நுழைவது முதல் குடல் தொற்று ஏற்படும் வரை கூட இம்மருந்து பயனளிக்கக்கூடியது. இரத்தசோகை ஏற்படும்போது இரும்பு சத்துள்ளவைகளை மாற்றாக கொடுப்பதன்	பாடக் கையேட்டைக் கொடுத்து பாடம் நடத்துதலும் கலந்துரையாடுதலும்	பாடம் நடத்துவதை கவனித்தலும் கேள்விக்கு பதில் அளித்தலும்

வ. எண்.	நோக்கம்	நேரம்	பாடக்குறிப்பு	ஆசிரியரின் செயல்பாடு	பங்குபெறுவோரின் செயல்பாடு
			மூலம் இரும்புக்குறைவு இரத்தசோகையிலிருந்து ஏற்படும் அறிகுறிகளைத் தடுக்க முடியும். **தவிர்க்கும் முறைகள்:** -கழிவறை தவிர மற்ற இடங்களில் மலம் கழிக்கக்கூடாது. -மனித கழிவுகள் கலந்த தண்ணீர், போன்றவைகளை விவசாயத்திற்கு உரமாகப் பயன்படுத்தக்கூடாது. -செருப்பு அணியாமல் மண் தரை போன்ற இடங்களில் நடக்கக்கூடாது. -வளர்ப்பு நாய்கள் மற்றும் பூனைகளுக்கு பூச்சி மாத்திரைகளைக் கொடுக்க வேண்டும். -வளரும் நாடுகள் சுற்றுப்புறத் தூய்மை மற்றும் சுகாதாரத்தை மேம்படுத்தவேண்டும். **நூல்புழு:** இப்புழுக்கள் என்ட்ரோபயாஸ் வெர்மிகுளாரிஸ் என்றும் அழைக்கப்படுகிறது. சிறிய புழு ஒட்டுண்ணிகள் மனிதனின் குடலில் தொற்றை ஏற்படுத்துகின்றன. ஓல்லியாகவும் வெள்ளையாகவும் மற்றும் சிறிய சிறிய நூல்கள் போன்றும் இருக்கும். முதிர்ந்த பெண் புழுக்கள் 8 முதல் 13 மிமீ நீளமும், முதிர்ந்த ஆண் புழுக்கள் 2 முதல் 5 மிமீ நீளமும் இருக்கும். 6 வாரம் வரை உயிர் வாழக்கூடியது.	பாடக் கையேட்டைக் கொடுத்து பாடம் நடத்துதலும் கலந்துரையாடுதலும்	பாடம் நடத்துவதை கவனித்தலும் கேள்விக்கு பதில் அளித்தலும்

வ. எண்.	நோக்கம்	நேரம்	பாடக்குறிப்பு	ஆசிரியரின் செயல்பாடு	பங்குபெறுவோரின் செயல்பாடு
			பரவும் விதம்: வளர்ச்சியடையாத லார்வாப் புழுக்கள் காலில் குழிபறித்து நுரையீரலை நோக்கிப் பயணித்து அங்கிருந்து தொண்டையை அடையும். பின் விழுங்குதல் மூலமாக வயிற்றை அடையும். இப்புழுக்கள் சிறுகுடலின் மேற்பகுதியில் வசிக்கின்றன. இப்புழுக்கள் மாறுபட்ட விதமாக திருப்பி திருப்பி நோய்த்தொற்று ஏற்பட்டவரையே தாக்குகிறது. இதற்கு ஆட்டோ தொற்று என்று பெயர். இந்த ஆட்டோத் தொற்றின் காரணமாக அதிகளவு தொற்று ஏற்பட்டு இப்புழுக்கள் மற்ற உறுப்புகளைத் தாக்குகின்றன. உ.ம் மூளை, கல்லீரல், மற்றும் இதயம். **அறிகுறிகள்:** ஆசன வாயைச் சுற்றிலும் அரிப்பு, பெண்களுக்கு பிறப்புறுப்பைச் சுற்றிலும் அரிப்பு. இந்த அரிப்பு இரவு நேரத்தில் ஏற்படுவதால் குழந்தைகள் தூக்கமின்மை, வயிற்றுவலி, வாந்தி எடுப்பது போன்ற உணர்வு, வாந்தி, வயிற்றுப்போக்கு, எடைக்குறைவு, சில நேரங்களில் இப்புழுக்கள் குழந்தையின் மலத்திலும் காணப்படும். அதிக தொற்றினால் குடல் அடைப்பது, இரத்தப்போக்கு, இருமல் மற்றும் மூச்சிறைத்தலும் ஏற்படுகிறது.	பாடக் கையேட்டைக் கொடுத்து பாடம் நடத்துதலும் கலந்துரையாடுதலும்	பாடம் நடத்துவதை கவனித்தலும் கேள்விக்கு பதில் அளித்தலும்

வ. எண்.	நோக்கம்	நேரம்	பாடக்குறிப்பு	ஆசிரியரின் செயல்பாடு	பங்குபெறுவோரின் செயல்பாடு
			வைத்தியமுறைகள்: மெபன்டஜோல் மற்றும் பிப்ரஜின் மருந்துகள் பொதுவாக பயன்படுகின்றன. மருந்துகள் மட்டும் நோயைக் குணப்படுத்தாது. தன் சுத்தம் மட்டுமே நோய்த்தொற்று ஏற்படுவதைத் தடுத்துவிடாது. **மேபன்டஜோல்** - புழுக்கள் குளுக்கோஸை உறிஞ்சுவதைத் தடுப்பதன் மூலம் அவைகள் குறைந்த நாட்களில் இறந்துவிட வழிவகை செய்கின்றது. இரண்டு வயதிற்கு மேற்பட்ட குழந்தைகளுக்கு மெபன்டஜோல் தான் சரியான மருந்து. நூல்புழுத்தொற்று திரும்பி ஏற்படக்கூடியது. எனவே இரண்டு வாரங்கள் கழித்து இரண்டாவது தவணையாக மருந்து எடுத்துக்கொள்வது நல்லது. மிக அரிதாக இம்மருந்து வயிற்றுவலி, வயிற்றுப்போக்கு போன்ற உபாதைகளை நோய்த்தொற்று அதிகளவில் உள்ளபோது உண்டாக்குகிறது. மெபன்டஜோல் மற்றம் பிப்ரஜின் மருந்துகள் 90 முதல் 100 விழுக்காடு நூல்புழுக்களை கொல்லக்கூடியது. ஆனால் அவைகளின் முட்டைகளை இம்மருந்துகொண்டு கொல்ல இயலாது. **தவிர்க்கும் விதம்:** -கைகளை சோப்பு பயன்படுத்தி கழுவுதல். -குடும்பத்திற்கே வைத்தியம் செய்தல்.	பாடக் கையேட்டைக் கொடுத்து பாடம் நடத்துதலும் கலந்துரையாடுதலும்	பாடம் நடத்துவதை கவனித்தலும் கேள்விக்கு பதில் அளித்தலும்

வ. எண்.	நோக்கம்	நேரம்	பாடக்குறிப்பு	ஆசிரியரின் செயல்பாடு	பங்குபெறுவோரின் செயல்பாடு
			-கை சூம்புதல் மற்றும் நகம் கடிப்பதை தவிர்த்தல். -படுக்கை விரிப்புகளை நன்கு துவைக்க வேண்டும. இரவு தூங்கும்போது இரவு உடை அணிய வேண்டும். மற்றும் துணிகளை பகிர்ந்து கொள்ளக்கூடாது. -வெற்றிடம் உருவாக்கி சுத்தப்படுத்துதல் அல்லது தண்ணீர் கொண்டு படுக்கை மற்றும் குளியலறையை துடைத்தல். -இரவு உடைக்கு உள்ளே நன்கு உடம்புடன் ஒட்டிய உடைகளை அணிய வேண்டும். அதன் மூலம் ஆசனவாய்க்கும் விரல்களுக்குமிடையே ஒரு தடையை ஏற்படுத்துகிறது. அதனால் முட்டைகள் விரல் இடுக்குகளுக்குள் செல்லாது. - படுக்கையிலிருந்து காலையில் எழுந்த உடன் ஆசன வாயை நன்கு கழுவ வேண்டும். அதனால் முதல் நாள் இரவு இடப்பட்ட அனைத்து முட்டைகளையும் அழிக்க முடியும். படுக்கை துணிகளை உதறக் கூடாது. அரிக்கும் கைகளுக்கு பருத்தியிலான கையுறை அணியவேண்டும். நகங்களை சிறியதாக வைத்திருக்க வேண்டும். -குழந்தைகள் கை சூம்புவதைத் தவிர்க்க வேணடும். -கழிவறைக்குச் சென்று வந்த பிறகும்,	பாடக் கையேட்டைக் கொடுத்து பாடம் நடத்துதலும் கலந்துரையாடுதலும்	பாடம் நடத்துவதை கவனித்தலும் கேள்விக்கு பதில் அளித்தலும்

வ. எண்.	நோக்கம்	நேரம்	பாடக்குறிப்பு	ஆசிரியரின் செயல்பாடு	பங்குபெறுவோரின் செயல்பாடு
			உணவருந்த செல்லும்போதும், சமையல் செய்யப்போகும் போதும், குழந்தையின் கழிவத்துணிகளை மாற்றியபிறகும் கைகளை சோப்பு போட்டு கழுவவேண்டும். -ஒவ்வொருவரும் தனித்தனியாக துண்டு, பல் துலக்கும் பிரஷ் மற்றும் முகத்துணியைப் பயன்படுத்த வேண்டும். -திரும்பத்தொற்று ஏற்படுவதைத் தவிர்க்க வளர்ச்சி முறைகளில் தடையை ஏற்படுத்தவும். குறைந்தது ஆறு வாரங்களுக்கு மேலே கண்டபடி நடந்து கொள்ளவேண்டும். குடற்புழுக்கள் தன் வளர்ச்சி முறைகளில் பாதியளவு மனிதனின் உடலில் உள்ள உணவு மண்டலத்தில் செலவழிக்கின்றன.		

LESSON PLAN
ON
PREVENTION OF
WORM INFESTATION

SUBMITTED BY,

REGISTRATION NO: 301317055
II nd YEAR MSC(N),
COLLEGE OF NURSING,
MMC,MADURAI.

Name of the student Teacher : P.RADHIKA

Name of the subject : Child Health Nursing

Year : II year M.Sc Nursing

Name of the Topic : Prevention of worm infestation

Class/Group/Batch : Mother of under five children

Sample strength : 60 sample

Venue : Pediatric ward at Government Rajaji hospital Madurai.

Previous Knowledge level : Mothers have basic knowledge but unaware of its prevention

Methods of teaching : Lecture cum discussion

Medium of instruction : Tamil

Duration of teaching : 30 min

Instructional AV aids : Self Instructional Module

Central Objective:

The self instructional module is constructed to improve knowledge on prevention of worm infestation among the mothers of under five children.

Contributory Objective:

At the end of the teaching the mothers of under five children will able to,

1. understands the meaning of worm infestation
2. list out the common types of worm infestation
3. enumerate the causes of worm infestation
4. elaborate the mode of transmission of worm infestation
5. recognize the signs and symptoms of worm infestation
6. explain the treatment and management of worm infestation
7. describe the preventive measures of worm infestation
8. mention the foods or spices prevents intestinal parasites

SL No	OBJECTIVE	TIME	CONTENT	INSTRUCTER ACTIVITY	LEARNERS ACTIVITY
1.	understands the meaning of worm infestation	1 min	**WORM INFESTATION:** "Worm infestation is one of the most common infections among children all over the world. Almost every alternate child, under the age of five, suffers from this ailment. But, it is more prevalent during monsoon season, being primarily a water borne infection, said Dr Yashwant Rao of Lala Lajpat Rai (LLR) hospital.	Lecture cum discussion with self instructional module	Listen attentively to the lecture
2.	list out the common types of worm infestation	1 min	**TYPES OF WORM INFESTATION:** There were four types of parasitic worms – round worm, thread worm, hook worm and taenia worm- that cause infection. During the rainy season, round worm infestation is common among young contaminated food and water. Worms are greyish white or pinkish white in color.	Lecture cum discussion with self instructional module	Listen attentively to the lecture
3.	enumerate the causes of worm infestation	3 min	**COMMON CAUSES:** • Eating contaminated food. • Infestation may occur when the food is undercooked or even when properly cooked, the food is handled by contaminated hands or utensils. • Raw food. • Penetration of the skin of the feet.	Lecture cum discussion with self instructional module	Listen attentively to the lecture

SL No	OBJECTIVE	TIME	CONTENT	INSTRUCTER ACTIVITY	LEARNERS ACTIVITY
4.	elaborate the mode of transmission of worm infestation	2 min	**MODE OF TRANSMISSION:** Intestinal parasites can be acquired in many ways. Some parasites can live in the soil for extended periods. They may penetrate the body through the skin or if contaminated soil is ingested accidentally. Other parasites live in animals, such as pigs and cows. People can become infested with these by eating undercooked meat or drinking unpasteurized milk. The eggs of some intestinal parasites pass through an infested person's gastrointestinal tract and into faeces. The parasite then can spread to other people through unintentional contact with the faeces. Depending on the type of parasite, a person may become infested by touching his or her mouth after contact with faeces that contain the organism or a contaminated area. Parasites can spread when a person eats contaminated food or drinks water contaminated by faeces. Swimming in contaminated water also may result in infestation by certain parasites. Parasitic intestinal infestations often occur in outbreaks, when several people have symptoms at the same time. This is especially likely if man by people come into contact with the same supply of contaminated food or water.	Lecture cum discussion with self instructional module	Listen attentively to the lecture

SL No	OBJECTIVE	TIME	CONTENT	INSTRUCTER ACTIVITY	LEARNERS ACTIVITY
5.	recognize the signs and symptoms of worm infestation	2 min	**SIGNS AND SYMPTOMS:** Stomach pain and watery diarrhoea usually start 1 to 2 weeks after infection. About half the people who are infected also lose weight. The illness lasts 2 to 6 weeks, or longer in people who are sick with another disease. Tiredness, malaise, Nausea, vomiting, Weight loss, Irregular bowel movement, diarrhoea, abdominal pain and distension. In hookworm infestation, itchy rash on the feet. In pin worm infestation, itch around the anus.	Lecture cum discussion with self instructional module	Listen attentively to the lecture
6.	explain the treatment and management of worm infestation		**TREATMENT AND MANAGEMENT:** Doctors may use antibiotics or anti-parasitic medicines. In most cases, patients can remain at home and maintain a normal schedule. Children must stay out of daycare until they have been treated adequately and can no longer spread the infection. Albendazole and mebendazole are much more effective.	Lecture cum discussion with self instructional module	Listen attentively to the lecture

SL No	OBJECTIVE	TIME	CONTENT	INSTRUCTER ACTIVITY	LEARNERS ACTIVITY
7.	describe the preventive measures of worm infestation	2 min	**PREVENTION OF WORM INFESTATION :** Cook your food well. Avoid unhygienic places and areas with poor sanitation. Wash fruit and vegetables thoroughly. Peel fruit just before eating it. Avoid raw salads not prepared at home. Thoroughly wash your hands with soap and clean water after using the toilet, and before preparing food or eating. Wear shoes outdoors. After playing or working or (handling) soil, do not put your finger in the mouth without first washing your hands. Have a stool examination if you have some symptoms mentioned previously. Consult your doctor if you suspect worm infestation or there is abdominal pain or swelling.	Lecture cum discussion with self instructional module	Listen attentively to the lecture
8.	explain the worm infestation in detail.		**TAPEWORM:** Tapeworm infestation is the infection of the digestive tract by adult parasitic flatworms called cestodes or tapeworms. Adult tapeworms can measure upto 50 feet long and can survive as long as 20 years. Some tapeworms attach themselves to the walls of the intestine, where they cause irritation or mild inflammation,. While others may pass through to the stool and	Lecture cum discussion with self instructional module	Listen attentively to the lecture

SL No	OBJECTIVE	TIME	CONTENT	INSTRUCTER ACTIVITY	LEARNERS ACTIVITY
			exit the body. Unlike other tapeworm, the dwarf tapeworm can complete its entire life cycle –egg to larva to adult tapeworm – in one host. This is the most common tapeworm infection in the world and can be transmitted between humans. Even while being treated for certain tapeworm infections, re-infection can result from infesting tapeworm eggs shed by the adult worm into the stool as a result of insufficient personal hygiene. **CAUSES:** Tapeworm infection can be caused by eating raw or undercooked meat from an animal or a fish that has the larval form of the tapeworm cysts in its muscle tissue. Once ingested, the larvae then develop into adult tapeworms in the intestines. **MODE OF TRANSMISSION:** Tapeworm eggs are generally ingested through food, water or soil contaminated with human or animal feaces. Live tapeworm larvae are sometimes ingested by consuming undercooked food. **SIGNS AND SYMPTOMS:** Tapeworms in the intestine usually cause no symptoms, some people experience upper abdominal discomfort, diarrhea, and loss of appetite.. Rarely, worms may cause obstruction of	Lecture cum discussion with self instructional module	Listen attentively to the lecture

SL No	OBJECTIVE	TIME	CONTENT	INSTRUCTER ACTIVITY	LEARNERS ACTIVITY
			the intestine. And very rarely, T.solium larvae can migrate to the brain causing severe headaches, seizures and other neurological problems. **TREATMENT:** Tapeworms are treated with medications taken by mouth, usually a single dose. **ROUNDWORMS:** Roundworm or nematodes, are a group of invertebrates with long, round bodies. They range in size from those that can be seen by the naked eye to those several hundredths of an inch long that can only be seen under a microscope. Roundworms can be 1 millimeter to 1 meter long, and infestations are more likely to occur in warmer climates than in colder locations. The severity of illnesses caused by parasitic roundworms ranges from, mild to life threatening. School age children are particularly at risk for parasitic roundworm infections. **TYPES, CAUSES AND MODE OF TRANSMISSION:**	Lecture cum discussion with self instructional module	Listen attentively to the lecture

SL No	OBJECTIVE	TIME	CONTENT	INSTRUCTER ACTIVITY	LEARNERS ACTIVITY
			The six most common types of roundworms include pinworms, ascaris, hookworms and trichinella spiralis. Roundworms vary in size, transmission and habitat. Though most roundworm infections are not life threatening in healthy people, many cause uncomfortable and sometimes serious symptoms. **Pinworm** eggs are found in the human colon and rectum. They are transmitted when an infected host scratches the area and touches other people, food, or objects. **Ascaris** roundworm is transmitted mainly through faeces and is thus prevalent in areas with poor sanitation. Humans become infected from touching infected dog or cat faeces and then touching food or their mouths. Hookworms, whipworms and strongyloides travel from faeces to moist soil. When a human walks over contaminated soil barefoot, the worms attach to the feet and penetrate the skin, making their way to the digestive tract. **SIGNS AND SYMPTOMS:** Many individuals do not show symptoms. Symptoms may vary, depending on the type of roundworm causing the	Lecture cum discussion with self instructional module	Listen attentively to the lecture

SL No	OBJECTIVE	TIME	CONTENT	INSTRUCTER ACTIVITY	LEARNERS ACTIVITY
			infection and the area of the body infected. Symptoms of an ascariasis infection range from mild abdominal pain to sharp abdominal pain, restlessness and vomiting .The severity of symptoms depends on the number of worms in the intestinal tract. Hookworm larvae migrate to the intestine symptoms of diarrhoea, abdominal pain, colic, nausea and cramps, itchy rash where the worm entered the body. Mild hookworm infections may not cause any symptoms, but severe infections may cause abdominal pain, bloody stools, weight loss, diarrhoea and decreased appetite. **PREVENTION:** Round worms can be easily prevented with proper hygiene. Children should be taught to always wash their hands after using the bathroom, or sharing toys with other children. To avoid whipworm, hookworm and strongyloides, proper shoes should be worn over moist ground. The best solution is to try to prevent these diseases rather than treat or cure them. **HOOKWORM:**	Lecture cum discussion with self instructional module	Listen attentively to the lecture

SL No	OBJECTIVE	TIME	CONTENT	INSTRUCTER ACTIVITY	LEARNERS ACTIVITY
			The hook worm is a parasitic nematode that lives in the small intestine of its host, which may be a mammal such as a dog, cat, or humans. This bend forms a definitive hook shape at the anterior end for which hookworms are named. They possess well developed mouths with two pairs of teeth. While males measure approximately one centimeter by 0.5 millimeter, the females are often longer and stouter. Hookworm is a leading cause of maternal and child morbidity in the developing countries of the tropics and subtropics. In susceptible children hookworms cause intellectual, cognitive and growth retardation, intrauterine growth retardation, prematurity and low birth weight among newborns born to infected mothers. In developed countries, hookworm infection is rarely fatal, but anemia can be significant in a heavily infected individual. **CAUSES:** Hookworms initially gain access through the body via the skin. As a result, a hookworm infestation may initially present itself as a small rash, particularly one on the feet if the parasite has been picked up by walking around bare foot. **MODE OF TRANSMISSION:** Hookworms are transmitted through the soil	Lecture cum discussion with self instructional module	Listen attentively to the lecture

SL No	OBJECTIVE	TIME	CONTENT	INSTRUCTER ACTIVITY	LEARNERS ACTIVITY
			contamination rather than worm egg ingestion. The immature form of the worm, the larva, burrows into the skin of the foot and travels to the lungs. It migrates to the throat where it is swallowed. Hookworms attach to the wall of the small intestine where they mature and feed on blood from the intestinal wall. **SIGNS AND SYMPTOMS:** Heavy infestation may cause weight loss, protein deficiency and iron –deficiency anemia. Larval invasion of the skin might give rise to intense, local itching, usually on the foot or lower leg, which can be followed by lesions that look like insect bites, can blister and last for a week or more. Coughing, chest pain, wheezing and fever will sometimes be experienced by people who have been exposed to very large numbers of larvae. Epigastric pains, indigestion, nausea, vomiting, constipation, and diarrhoea can occur early or in later stages as well, although gastrointestinal symptoms tend to improve with time. **MANAGEMENT:** 72% for albendazole, 15% for mebendazole and 31% for pyrantel pamoate. This substances prior claims that albendazole	Lecture cum discussion with self instructional module	Listen attentively to the lecture

SL No	OBJECTIVE	TIME	CONTENT	INSTRUCTER ACTIVITY	LEARNERS ACTIVITY
			is much more effective than mebendazole for Hookworm infections. Albendazole is effective both in the intestinal stage and during the stage the parasite is still migrating under the skin. In case of anemia, iron supplementation can cause relief symptoms of iron deficiency anemia. **PREVENTION:** Do not defecate in places other than latrines, toilets etc. Do not use human excrement or raw sewage or untreated 'night soil' as manure/fertilizer in agriculture. Do not walk barefoot in known infected areas. Deworm pet dogs and cats. Developing countries need to improve sanitation measures to prevent infection. **THREADWORMS:** Threadworms also known as Enterobios Vermicularis are small worm parasites that infect the intestines of humans. They are thin, white and look like pieces of thread. The adult female worm is 8-13 mm long and the adult male is 2-5 mm long. They live for upto 6 weeks. **MODE OF TRANSMISSION:**	Lecture cum discussion with self instructional module	Listen attentively to the lecture

SL No	OBJECTIVE	TIME	CONTENT	INSTRUCTER ACTIVITY	LEARNERS ACTIVITY
			The immature larval worms burrow through the skin, migrate to the lungs and throat and are swallowed. Threadworms live in the upper part of the small intestine. Threadworms are unusual in that they can repeatedly infect the same person, a process called auto-infection. Threadworm autoinfection can cause a heavy infestation called a hyper-infection wherein the worms migrate to organs outside the intestine including the liver, heart and brain. **SIGNS AND SYMPTOMS:** The main symptoms of worms is itching around the anus and vagina (in girls) the itching is always at night leading to a disturbed sleep for the child, abdominal pain, nausea, vomiting, diarrhoea and weight loss sometimes the worms can be seen in a child feces. Hyper infection can cause intestinal blockage, bleeding cough and shortness of breath. **MANAGEMENT:** The most common medications that are used to treat threadworm infections are mebendazole and piperazine. Treatment alone does not kill threadworm eggs- good hygiene is the only way to prevent eggs from spreading and causing another infection.	Lecture cum discussion with self instructional module	Listen attentively to the lecture

SL No	OBJECTIVE	TIME	CONTENT	INSTRUCTER ACTIVITY	LEARNERS ACTIVITY
			Mebendazole works by preventing the threadworms from being able to absorb glucose, which means that they will die within a few days. Mebendazole is the preferred treatment for children over two years old. As threadworm re-infections are very common, a second dose of mebendazole may be prescribed to be taken after two weeks. In rare cases, mebendazole can cause abdominal pain or diarrhoea, particularly if the threadworm infection is severe. Mebendazole and piperazine are 90%-100% effective at killing the threadworms, but don't kill the eggs. **PREVENTION:** • Washing hands. • It is important to treat the whole house to prevent re-infection. • Cleaning hands and under nails with a nail brush. • Discourage nail biting/finger sucking. Wash bed linen, if possible wear clean pyjamas every night and avoid sharing towels and flannels. • Vaccum and damp dust bedrooms and bathrooms. • Wear close fitting knickers or pants at night under	Lecture cum discussion with self instructional module	Listen attentively to the lecture

SL No	OBJECTIVE	TIME	CONTENT	INSTRUCTER ACTIVITY	LEARNERS ACTIVITY
			pyjamas, so that if urge to scratch persists there is a cloth barrier between anus and fingers, so hopefully eggs will not get undernails. • Wash anus as soon as you get up in the morning, to wash off any lingering eggs laid the previous night. Avoid shaking any material, like sheets, which may have eggs on. Keep your finger nails short, wear cotton gloves at night if you scratch. • Make sure children don't suck their thumb. • Wash your hands frequently and scrub under your fingernails, particularly before eating or preparing food, after going to the toilet and before and after changing a nappy. • Bath or shower first thing in the morning and clean your bottom to remove any eggs. • Make sure everyone has their own separate flannel, towel and tooth brush. • To prevent re-infection and to break the life cycle of the worm, these measures should be adhered to for at least 6 weeks. Intestinal parasites and worms spend at least a	Lecture cum discussion with self instructional module	Listen attentively to the lecture

SL No	OBJECTIVE	TIME	CONTENT	INSTRUCTER ACTIVITY	LEARNERS ACTIVITY
			part of their life cycles in the gastrointestinal tracts of host organisms.	Lecture cum discussion with self instructional module	Listen attentively to the lecture

SELF INSTRUCTIONAL MODULE






WORM INFESTATION

PREPARED BY

REG. NO : 301317055

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WORM INFESTATION

INTRODUCTION:

Worms are living in our body as parasites. As they grow in a very fast manner, it produces lot of unwanted ill effects to our body. A single worm can lay thousands of eggs at a stretch. They grow by our essential nutrients taken through food or our blood. Infestation leads to malnutrition, night blindness and anaemia. Unhygienic environment causes worm infestation.

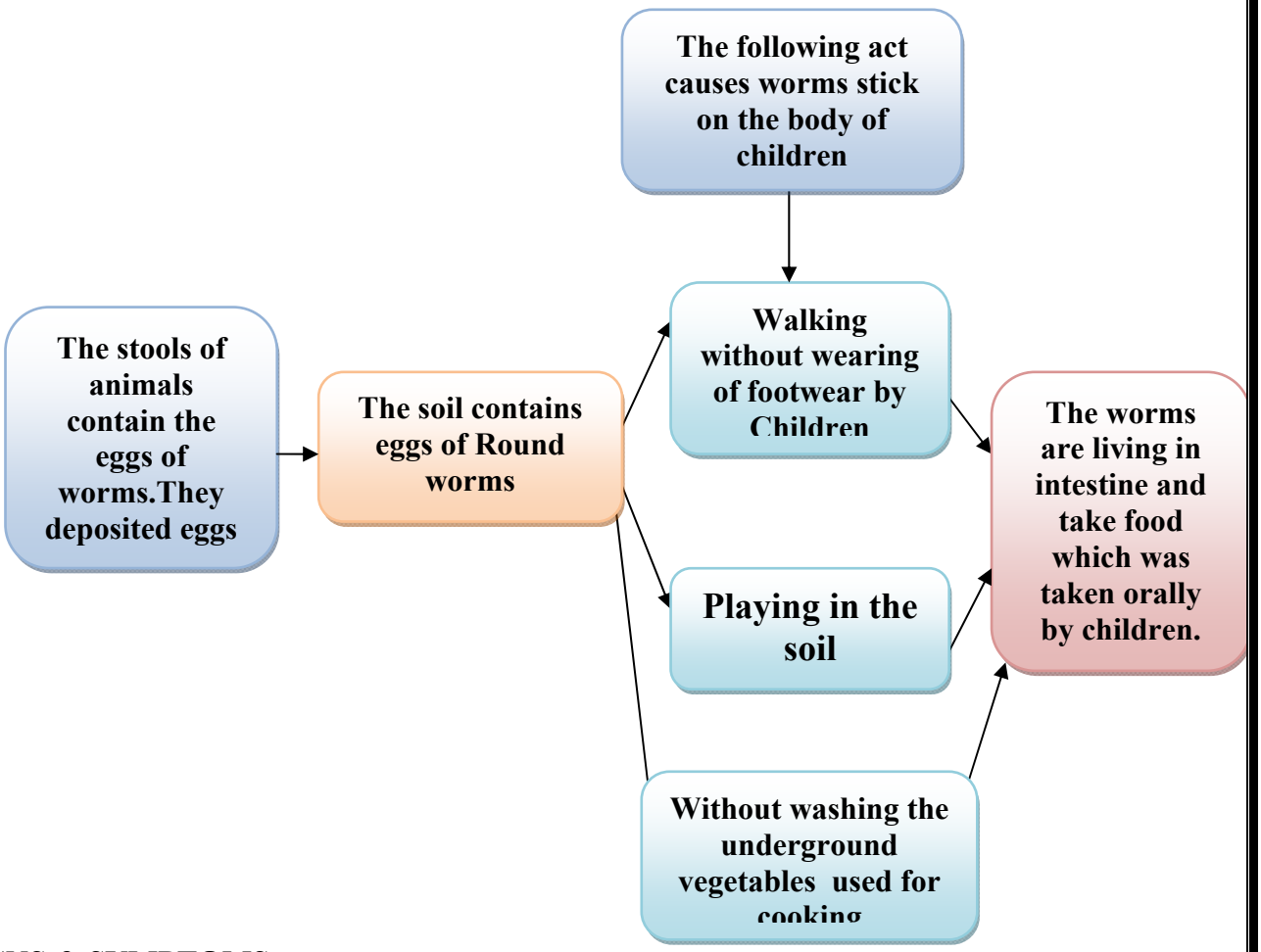
TYPES:

1. ROUND WORMS
2. HOOK WORMS
3. TAPE WORMS
4. THREAD WORMS

1. ROUND WORMS: These worms are producing malnutrition in children. They are in slight red or white in colour. They are 10 -15 cms in length.

MODE OF TRANSMISSION:

While the children are following open air defaecation, playing in the soil, walking without wearing the foot wear, the worms are sticking on the hand and foot. Without washing their hands before going to take food, they entered into the body. The worms are stick on the under ground vegetables. Without washing the under ground vegetables, they entered to the body.



SIGNS & SYMPTOMS:

Abdominal pain, indigestion and Vomiting.

TREATMENT:

We can prevent the worm infestation by taking anti-helminthic medications as per physician order.

PREVENTION OF WORM INFESTATION:

- Avoid open air-defaecation
- Wash the hands of the children before taking food as well as after defaecation.

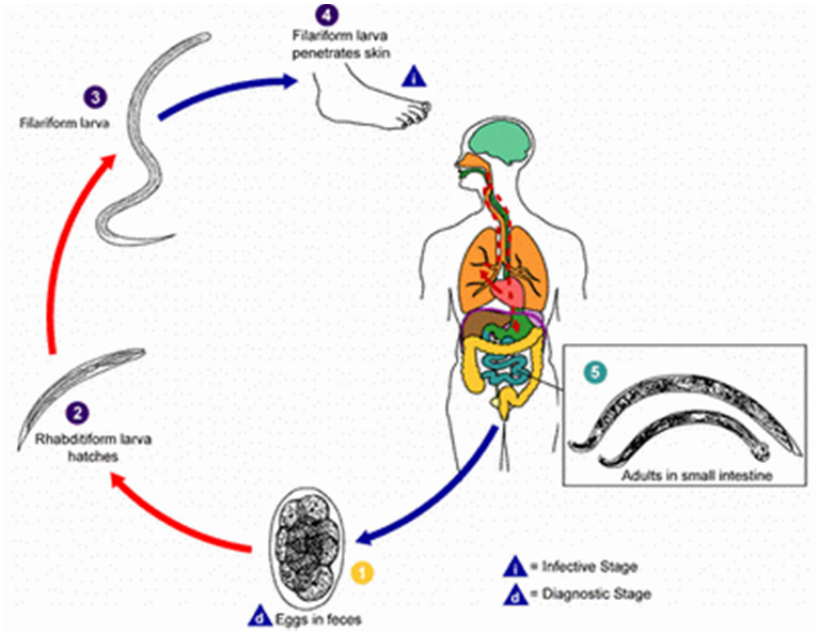
- Avoid to take sand by the children.
- The vegetables should be washed thoroughly before cooking and should be cooked well.

HOOK WORMS

Hook worms are red in colour. The length of the worm is 1 cm. They have to enter into the body by joining with other worms. They spread through blood stream to all over the body. They produce anaemia in children.

MODE OF TRANSMISSION:

The worms are entered through the body of the children by the fissures in the foot while barefoot walking.



SIGNS & SYMPTOMS:


- While entering into the foot, worms produce itching at the point of entry.
- After entry of worms, they reach the lungs within few days through blood stream. At that time, it produces dry cough.
- After few days, it produces abdominal pain and diarrhea.

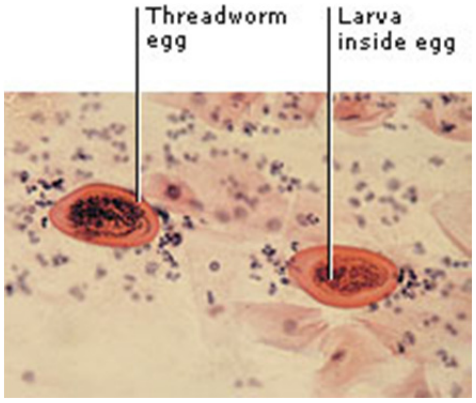
TREATMENT:

- We get cured from hook worm infestation by taking medicines after consulting the physician or health personnel.
- We can prevent anaemia by taking Ferrous sulphate tablets.

PREVENTION OF WORM INFESTATION:

- The children should be instructed to wear foot wear while they are going out of home.
- Wash their foot and leg with soap and water.

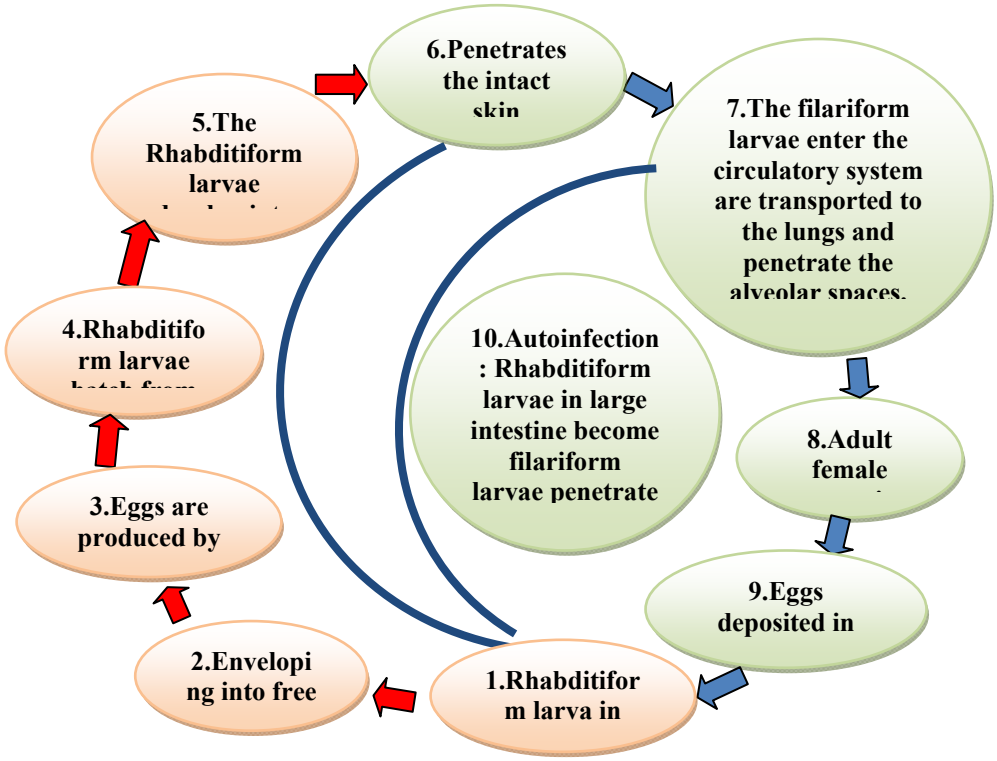
THREAD WORMS



Thread worms are thread in shape and white in colour. The eggs of these worms are present in the genitals of children abundantly.

MODE OF TRANSMISSION:

The worms are attached on the nails of the children while they are scratching the genital area. They enter and spread into the body of children by taking food with unwashed hands.



SIGNS & SYMPTOMS:


- Irritation and itching over the genital areas.
- Sleeplessness
- Body weakness.

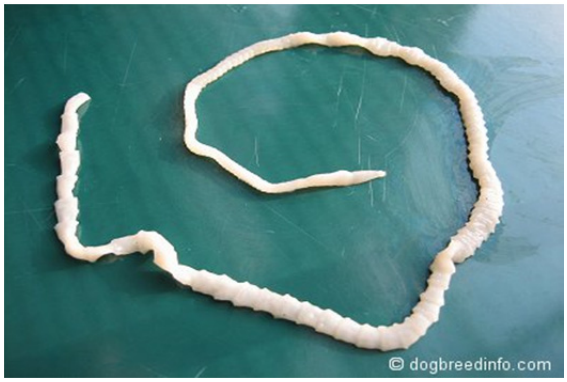
TREATMENT:

We get cured from thread worm infestation by taking medicines after consulting the health personnel.

PREVENTION OF WORM INFESTATION:


- Wash the hands and legs with soap and water.
- Nails should be always clean.
- Nails should be cut short.

TAPE WORMS



These are living in the body of animals as parasites. If the animals are taking unhygienic water, these worms entered and produce ill effects .

MODE OF TRANSMISSION:

The intake of uncooked meat produces tape worms affected infestation in human beings. Sometimes, they can produce severe ill-effect to the affected person.

SIGNS & SYMPTOMS:

Nausea, diarrhea, abdominal pain, loss of appetite, weight loss, tiredness and malnutrition.

TREATMENT:

We get cured from tapeworm infestation by taking medicines after consulting the physician or health personnel.

PREVENTION :

- The meat should be washed well.
- The meat should be taken after well-cooked.

CONCLUSION:

Worm infestation causes malnutrition, weight loss, facial taenia infection, and effects on growth in children. The parents should be watchful on the hygienic practices followed by their children. The children must be instructed to take healthy foods from early childhood onwards.

சுய விளக்க குறிப்பேடு






புழுத்தொற்று

தயாரித்தவர்

பதிவு எண்:301317055

செவிலியபயிற்சிக்கல்லூரி,

இரண்டாம்ஆண்டு முதுகலை செவிலியபட்டப் படிப்பு மாணவி

மதுரை மருத்துவக்கல்லூரி,

மதுரை

புழுத்தொற்று

அறிமுகப்படுத்துதல்:

புழுக்கள் என்பது நாம் உடலில் வாழும் ஒட்டுண்ணிகளாகும். புழுக்கள் வேகமாக பெருகக்கூடியவை என்பதால் நம் உடலுக்கு தீங்கு விளைவிக்கிறது. நம் உடலில் உள்ளஒரு புழு ஆயிரக்கணக்கான முட்டைகள் போடமுடியும். இந்த முட்டைகள் புழுக்களாக வளர்ந்துநாம் சாப்பிடக்கூடிய உணவின் முக்கியப்பகுதி அல்லது உடலில் உள்ள இரத்தத்தை உணவாக உட்கொள்கின்றன. புழுத்தொற்று காரணமாக ஊட்டசத்தின்மை, எடைக்குறைவு மற்றும் இரத்தசோகை போன்ற நோய்கள் ஏற்படுகின்றன. சுற்றுப்புறப் பகுதி துாய்மையற்று காணப்படுவதால் இந்த புழுத்தொற்று ஏற்படுகின்றது. இந்த புழுத்தொற்றினை மலப் பரிசோதனையின் மூலம் கண்டறியலாம்.

வகைகள்

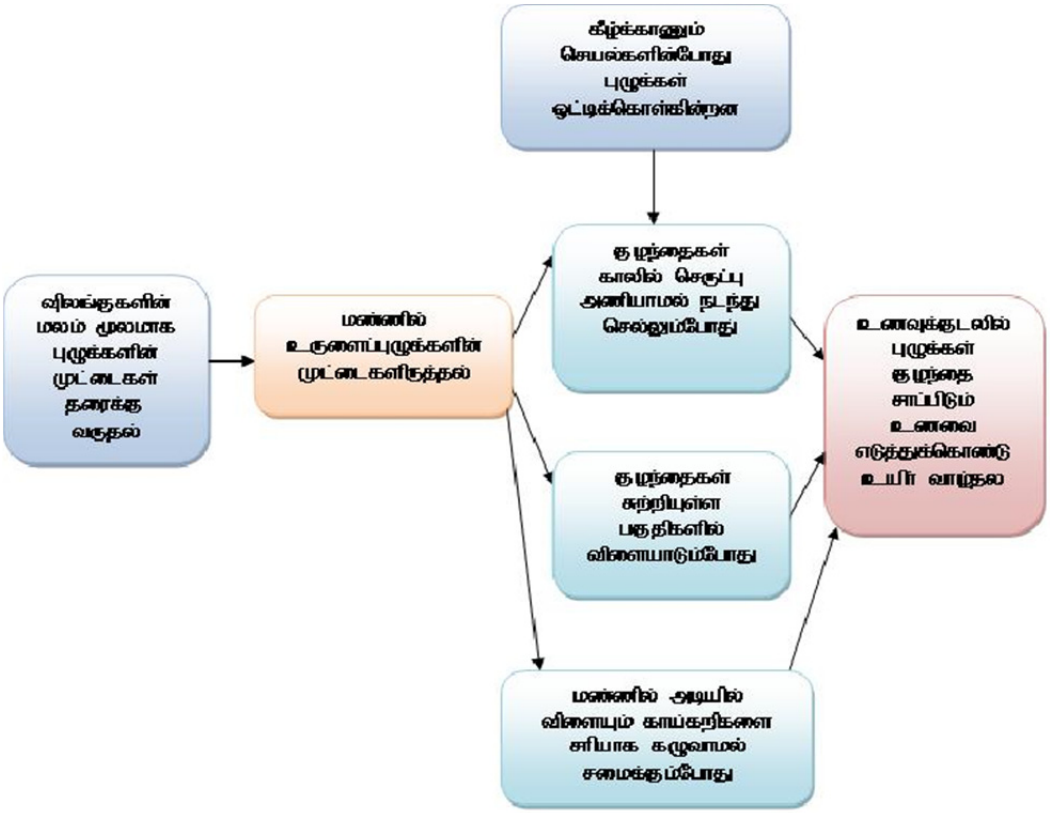
1. உருளைப்புழு
2. கொக்கிப்புழு
3. நாடாப்புழு
4. நூல்புழு

1. உருளைப்புழு

உருளைப் புழுக்கள் குழந்தைகளிடையே ஊட்டச்சத்து குறைபாட்டை ஏற்படுத்துகிறது. இந்த புழுக்கள் இளஞ்சிவப்பு அல்லது வெள்ளை நிறமாக இருக்கும். இதனுடைய நீளம் 10 முதல் 15செ.மீ ஆகும். இந்த உருளைப்புழு பள்ளிக் குழந்தைகளிடம் அதிகமாக காணப்படும்.

பரவும்முறை

குழந்தைகள் திறந்தவெளியில் மலம் கழிக்கும் போதும், சுற்றியுள்ள பகுதிகளில் விளையாடும் போதும், கால்களில் செருப்பு அணியாமல் நடக்கும் போதும், புழுக்களின் சிறியமுட்டை கை,கால்களில் ஒட்டிக்கொள்கின்றன. இதனால் குழந்தைகள் கை கழுவாமல் சாப்பிடும்பொழுது இந்தமுட்டைகள் உடலில் நுழைகின்றன. மண்ணின் அடியில் விளையும் காய்கறிகளில் இந்தமுட்டைகள் ஒட்டிக்கொள்வதால் காய்கறிகளை நாம் சரியாக கழுவாமல் சமைக்கும் பொழுது நம் உடலில் புழுக்கள் நுழைகின்றன.



அறிகுறிகள்

வயிற்றுவலி, அஜீரணம் மற்றும் வாந்தி

சிகிச்சை

குடல்புழு நீக்க மாத்திரைகளை தகுந்த மருத்துவரின் ஆலோசனைப்படி எடுத்துக் கொண்டால் இந்த புழுத்தொற்றை தடுக்கலாம்.

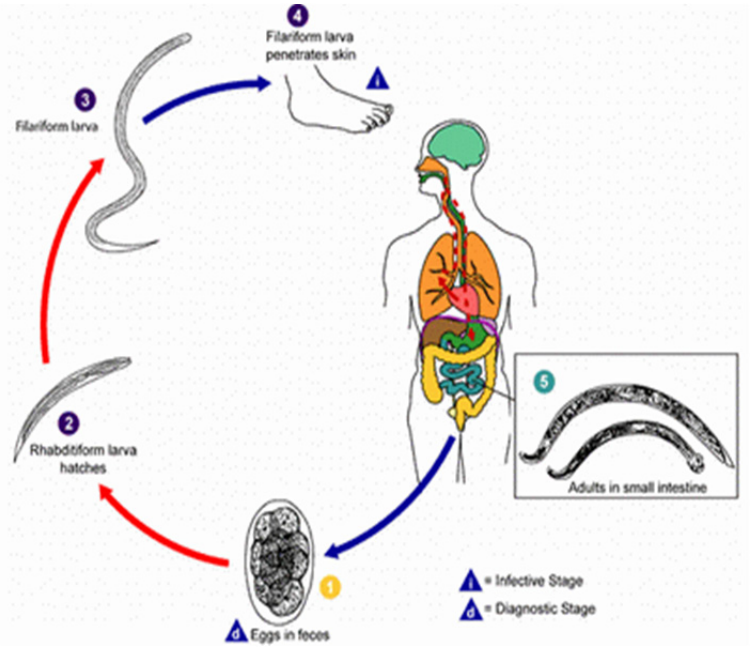
தடுப்பு

- திறந்த வெளியில் மலம் கழிப்பதை தடுக்கவேண்டும்.
- குழந்தைகள் மலம் கழித்த பிறகும் சாப்பிடுவதற்கு முன்பும் கைகளை சோப்பு போட்டு நன்றாக கழுவவேண்டும்.
- குழந்தைகளை மண் சாப்பிடாமல் பார்த்து கொள்ள வேண்டும்.
- சமைப்பதற்கு முன் காய்கறிகளை சுத்தமாக கழுவி நன்றாக வேகவைத்து சாப்பிடவேண்டும்.

கொக்கிப்புழு

கொக்கிப்புழு என்பது இளஞ்சிவப்பும், வெள்ளையும் கலந்த நிறமாக இருக்கும். இதனுடைய வடிவம் "S" வடிவமாகும். இவற்றின் நீளம் 1 செ.மீஆகும். இது உடலில் நுழைய அவை தங்களை இணைத்து கொள்கிறது. பின் உடலினுள் இரத்த ஓட்டத்தின் வழியே செல்கிறது. குழந்தைகளிடையே இரத்தசோகை மற்றும் மண் சாப்பிடும் குழந்தைகளிடையே இரத்தசோகையை ஏற்படுத்துகிறது.

பரவும்முறை



குழந்தைகள் வெறும் காலில் நடக்கும் போது காலில் உள்ள வெடிப்பு போன்ற பகுதியில் இந்த முட்டைகள் நுழைந்து விளைவுகளை ஏற்படுத்துகிறது.

அறிகுறிகள்

- கொக்கிப்புழுகாலின் வழியே நுழையும் போது கால் நமைச்சல் ஏற்படுத்தும்.
- உடலினுள் நுழைந்து சில நாட்களில் கொக்கிப்புழு இரத்த ஓட்டத்தின் வழியே நுரையீரலை அடையும் போது வறண்ட இருமலை ஏற்படுத்துகிறது.
- ஒரு சில நாட்களில் வயிற்றுப்போக்கு, வயிற்றுவலி உண்டாக்கும்.

சிகிச்சை

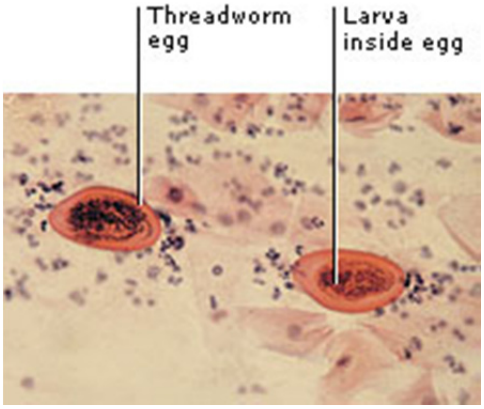
- மருத்துவர் அல்லது சுகாதாரப் பணியாளரின் ஆலோசனைப்படி மாத்திரைகளை எடுத்து கொக்கிப்புழுவை நீக்கலாம்.
- இரும்புச்சத்து மாத்திரைகள் எடுத்துக் கொள்வதன் மூலம் இரத்தசோகையை தடுக்கலாம்.

தடுப்பு

- குழந்தைகள் வீட்டிற்கு வெளியே போகும் போது காலணிகள் கண்டிப்பாக அணிய வேண்டும்.
- கால்களை சுத்தமாக சோப்பு போட்டு கழுவவேண்டும்.

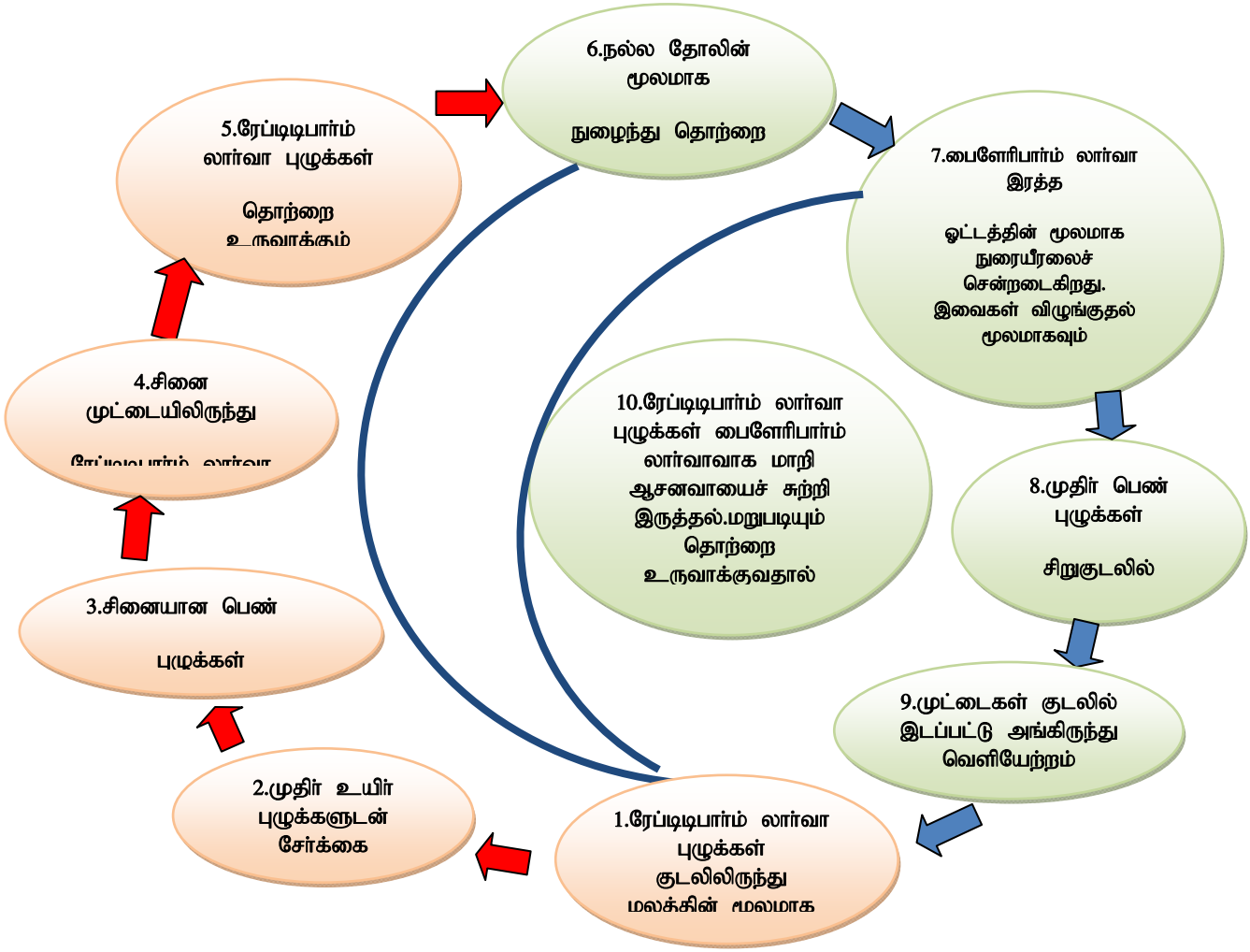
நூல்புழு

இந்தபுழுக்கள் நூல் போன்றவை மற்றும் வெள்ளைநிறத்தில் இருக்கும். இந்தமுட்டைகள் குழந்தைகள் சிறுநீர் கழிக்கும் இடத்தில் ஆயிரக்கணக்கில் இருக்கின்றன.



பரவும் முறை

குழந்தைகள் சிறுநீர் கழிக்கும் இடத்தைசொரியும் பொழுதுஅந்த இடத்தில் உள்ளமுட்டைகள் நகங்களில் ஒட்டிக்கொள்கின்றன. பின்புகைகழுவாமல் உணவைஉட்கொள்ளும் பொழுது பரவ தொடங்குகிறது.



அறிகுறிகள்

- மலம் கழிக்கும் (ஆசனவாய்) இடத்தில் அரிப்புமற்றும் எரிச்சல் ஏற்படுகிறது.
- தூக்கமின்மை
- உடல் பலவீனத்தைஉண்டாக்கும்.

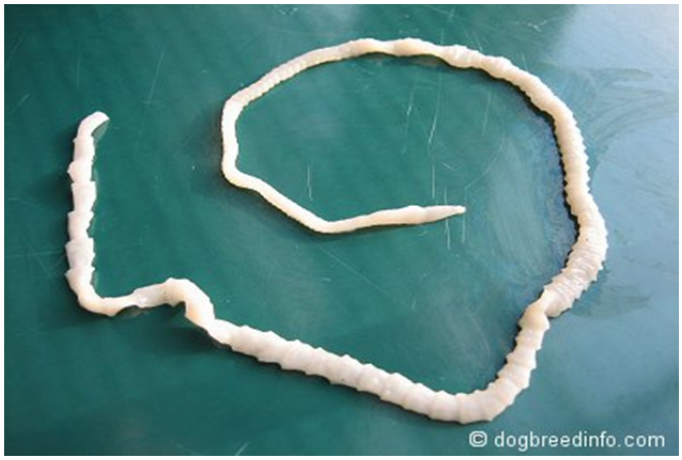
சிகிச்சை

சுகாதாரப்பணியாளரின் ஆலோசனைப்படிமாத்திரைகளைஎடுத்துக் கொண்டு இந்தநூல்புழுக்களைநீக்கலாம்.


தடுப்பு

- சோப்புமற்றும் நீர் கொண்டு கை,கால்களைகழுவவேண்டும்.
- நகங்களைசுத்தமாகவைத்துக் கொள்ளவேண்டும்
- குட்டையாகநகங்களைவைத்துகொள்ளவேண்டும்.

நாடாப்புழு



நாடாப்புழுஎன்பதுவிலங்குகளின் உடலில் வாழும் ஒருவகையான ஒட்டுண்ணிகளாகும். இதன் வடிவம் ரிப்பன் போன்றவடிவமாகும். விலங்குகள் அசுத்தமான தண்ணீரை குடிக்கும் பொழுது இந்த நாடாப்புழு விலங்குகளின் உடலில் சென்று விலங்குகளை பாதிப்பிற்கு உண்டாக்குகின்றன.

பரவும் முறை

நாடாப்புழுவினால் பாதிக்கப்பட்ட விலங்குகளின் இறைச்சிகளை வேக வைக்காமல் உண்பதால் மனிதர்களுக்கு நாடாப்புழு தொற்றுஏற்படுகிறது. இவைகள் சில நேரங்களில் கடுமையாக உயிருக்கு ஆபத்தான பிரச்சனைகளை ஏற்படுத்தும்.


அறிகுறிகள்

குமட்டல், வயிற்றுப்போக்கு, வயிற்றுவலி, பசியின்மை, எடைகுறைதல், களைப்பு, ஊட்டச்சத்து குறைவு.

சிகிச்சை

மருத்துவர் அல்லது சுகாதார பணியாளரின் ஆலோசனைப்படி மாத்திரைகளை எடுத்துக் கொள்வதால் நாடாப்புழு தொற்றை நீக்கலாம்.

தடுப்பு

- இறைச்சிகளை சுத்தமாக கழுவவேண்டும்
- இறைச்சிகளை நன்றாக வேகவைத்த பின்பு சாப்பிடவேண்டும்.

தீர்மானம்

புழுத்தொற்று காரணமாக குழந்தைகளிடையே ஊட்டச்சத்துகுறைவு, எடைகுறைதல், முகத்தில் வெள்ளைநிற தேமல்கள், வளர்ச்சிப்பாதிப்பு போன்ற குறைபாடுகள் ஏற்படுகின்றன. பெற்றோர்கள் குழந்தைகளை சுகாதார முறைகளை பின்பற்றுகிறார்களா என்பதை கண்காணிக்க வேண்டும். குழந்தைகளுக்கு ஆரோக்கியமான உணவுப் பழக்கவழக்கங்களை சிறுவயது முதலே பழக்கப் படுத்த வேண்டும்.